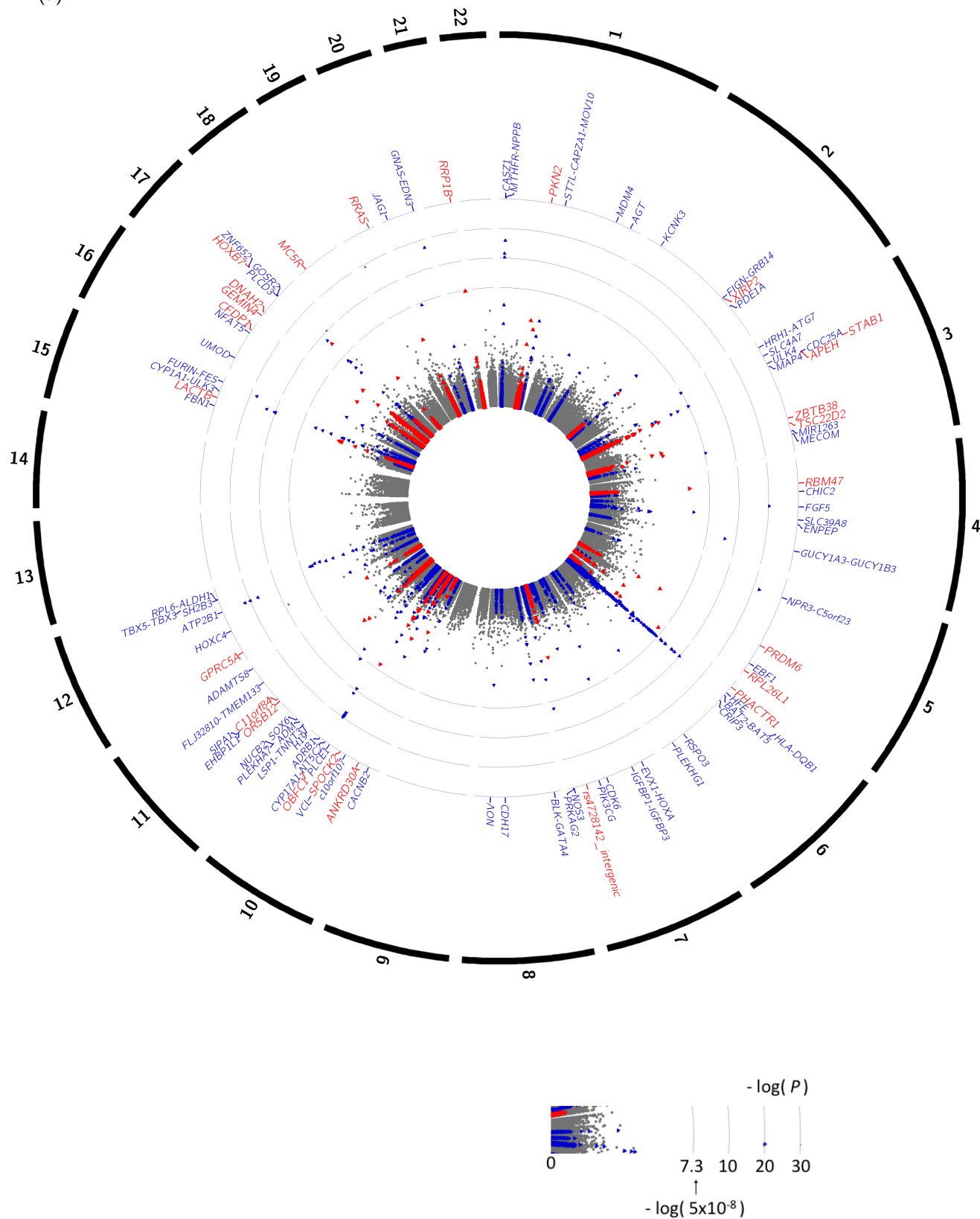


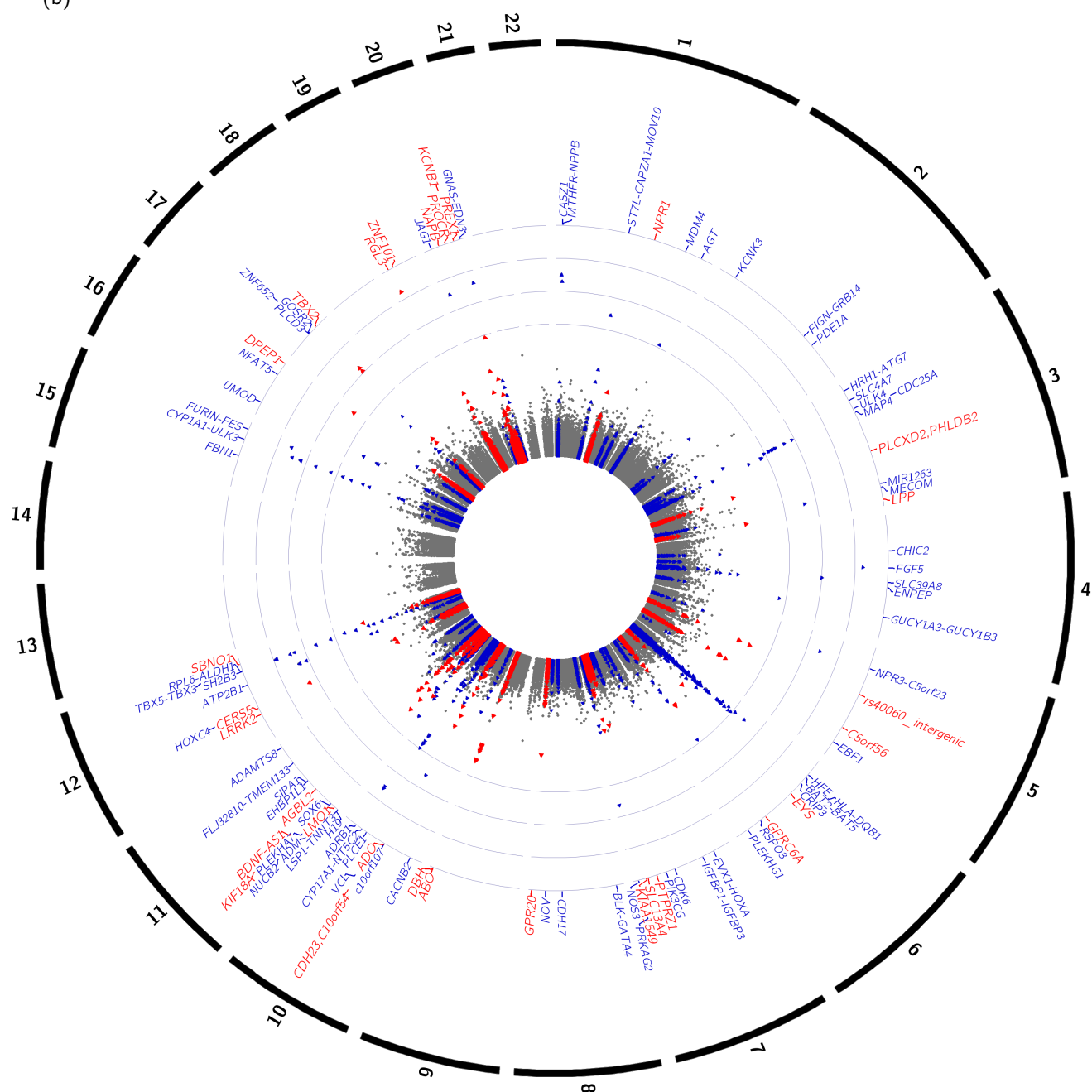
**Supplementary Figure 1: Discovery SNV-BP associations in Europeans and South Asians (EUR\_SAS).**

Results are provided for (a) transformed SBP (b) transformed DBP (c) transformed PP and (d) HTN in the European and South Asian (EUR\_SAS) discovery samples. The y-axis represents  $-\log_{10}P$  for association. Red triangles represent variants that map to one of the 81 regions selected for replication, blue triangles represent SNVs that map to previously published BP regions, and grey triangles represent all remaining SNVs. SNVs are ordered according to chromosome (black lines on the outside of the plot) and physical position. Genes that SNVs map to are given in the outer blocks.

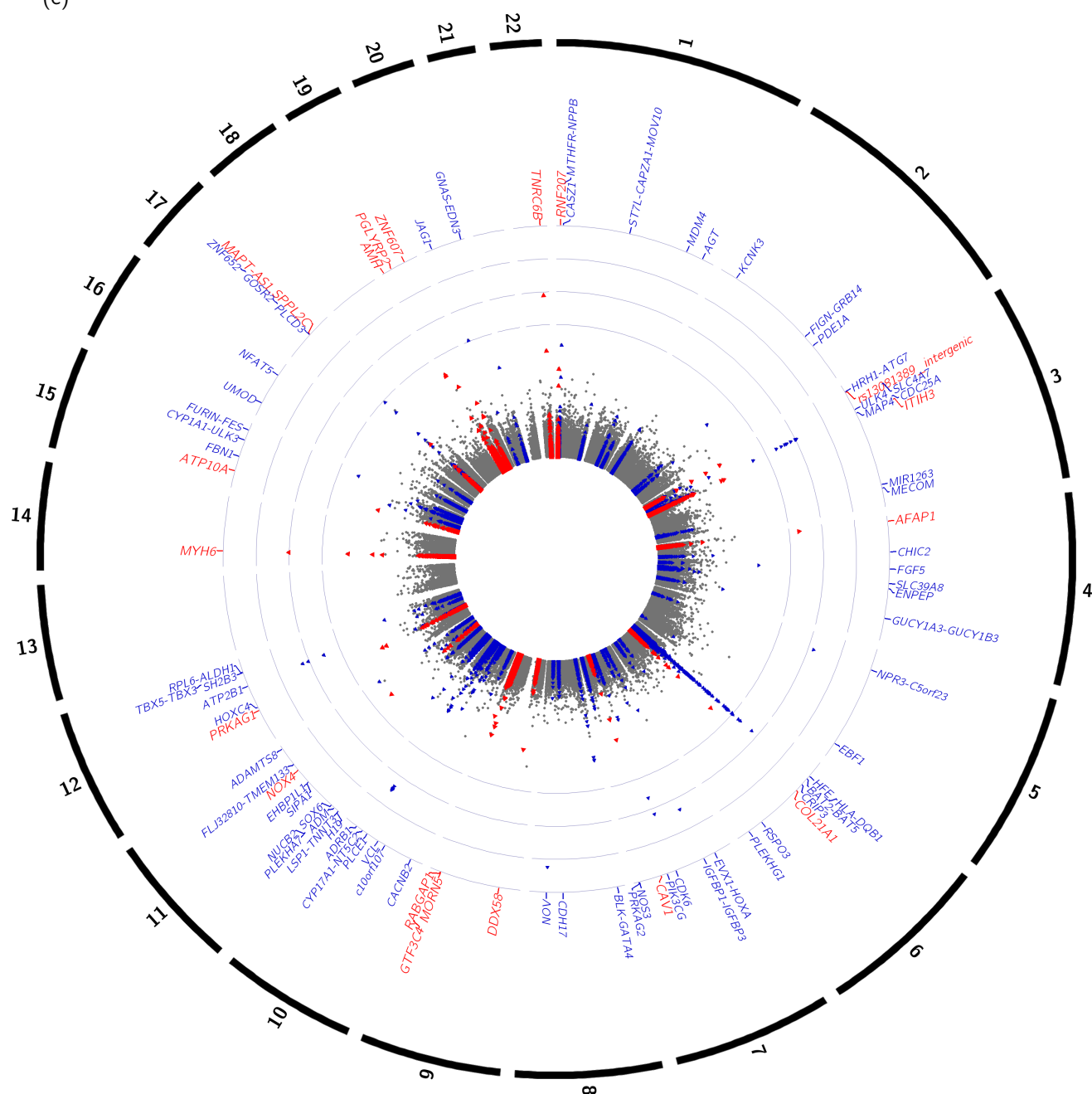
(a)



(b)

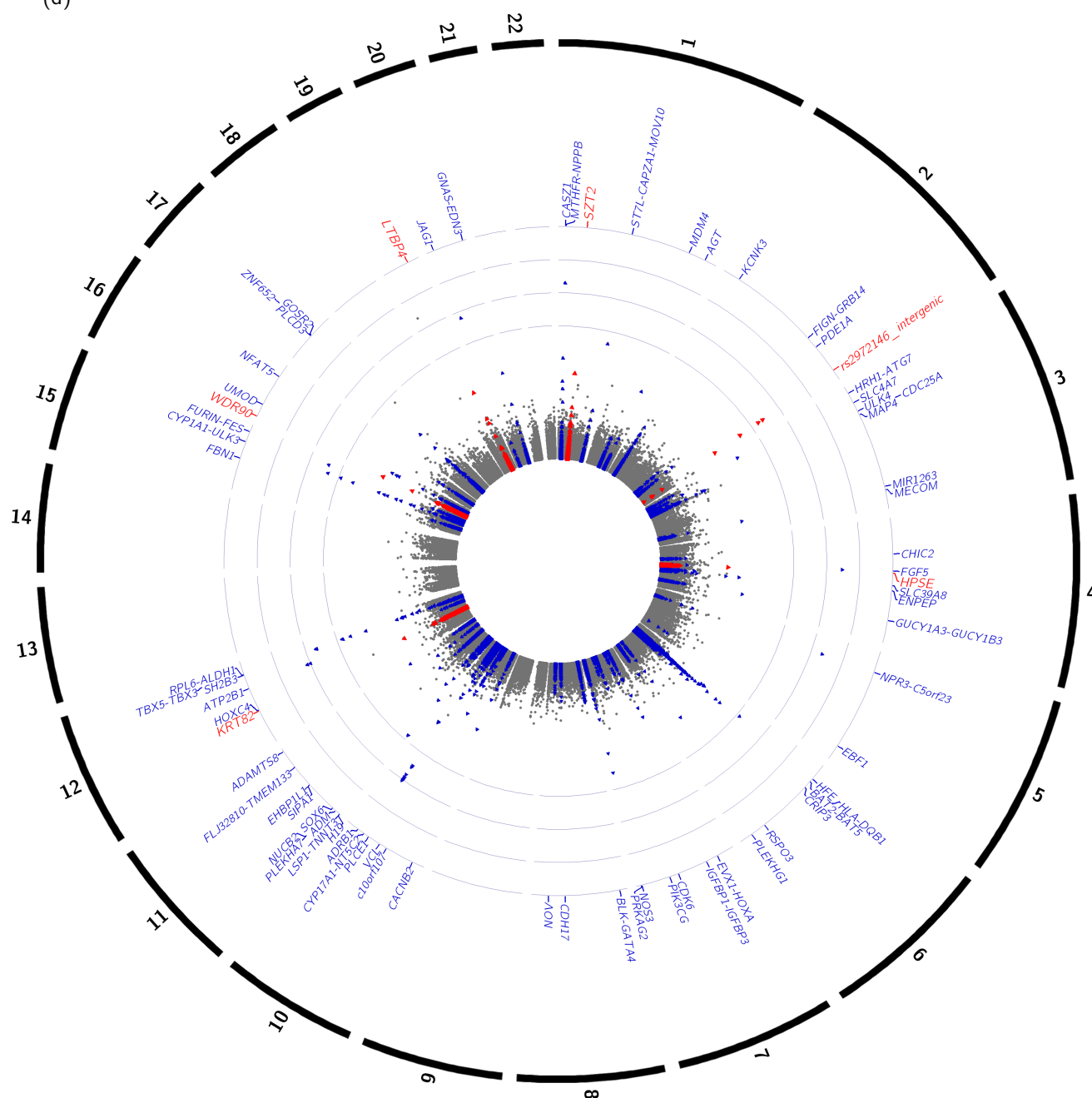


(c)





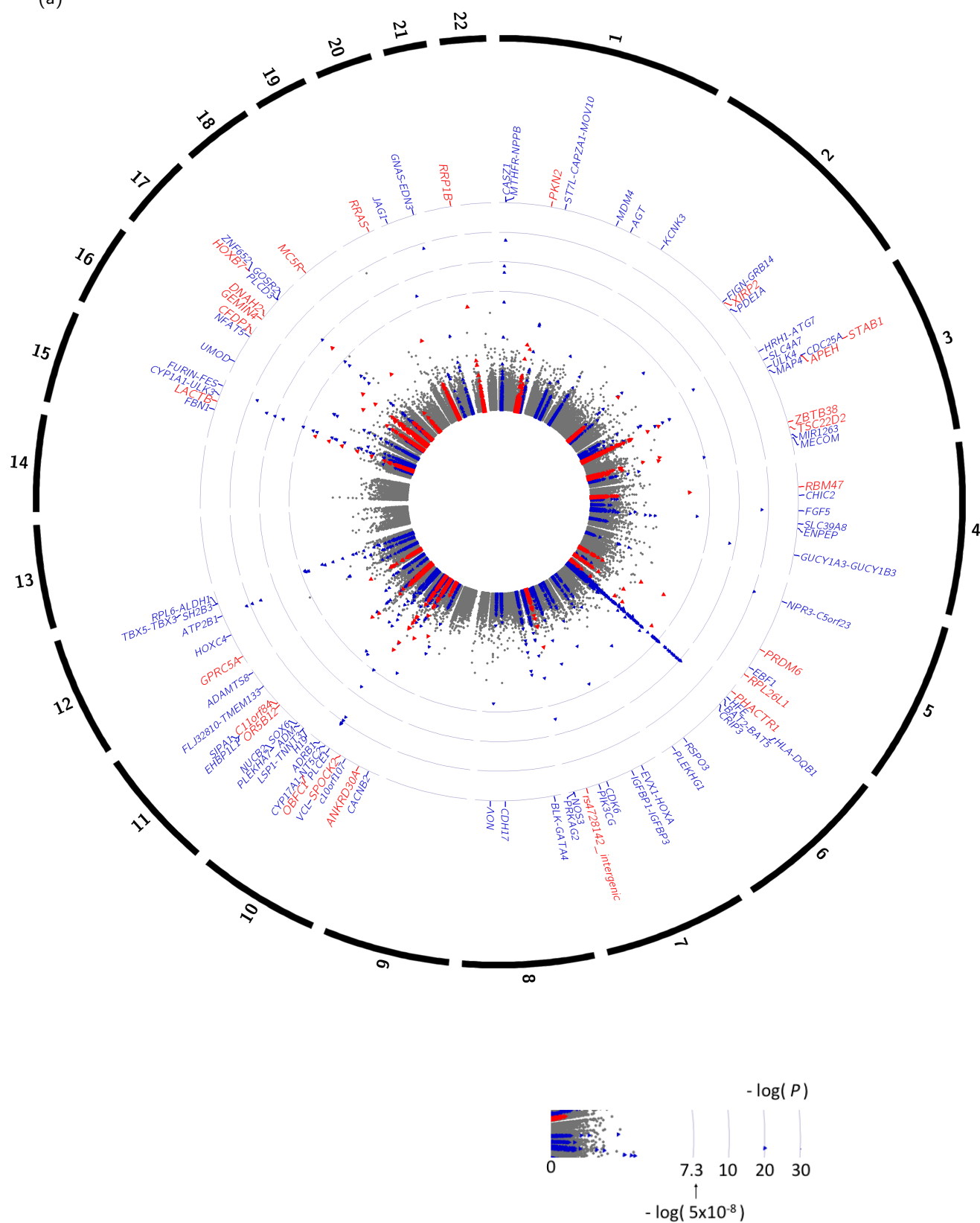
(d)



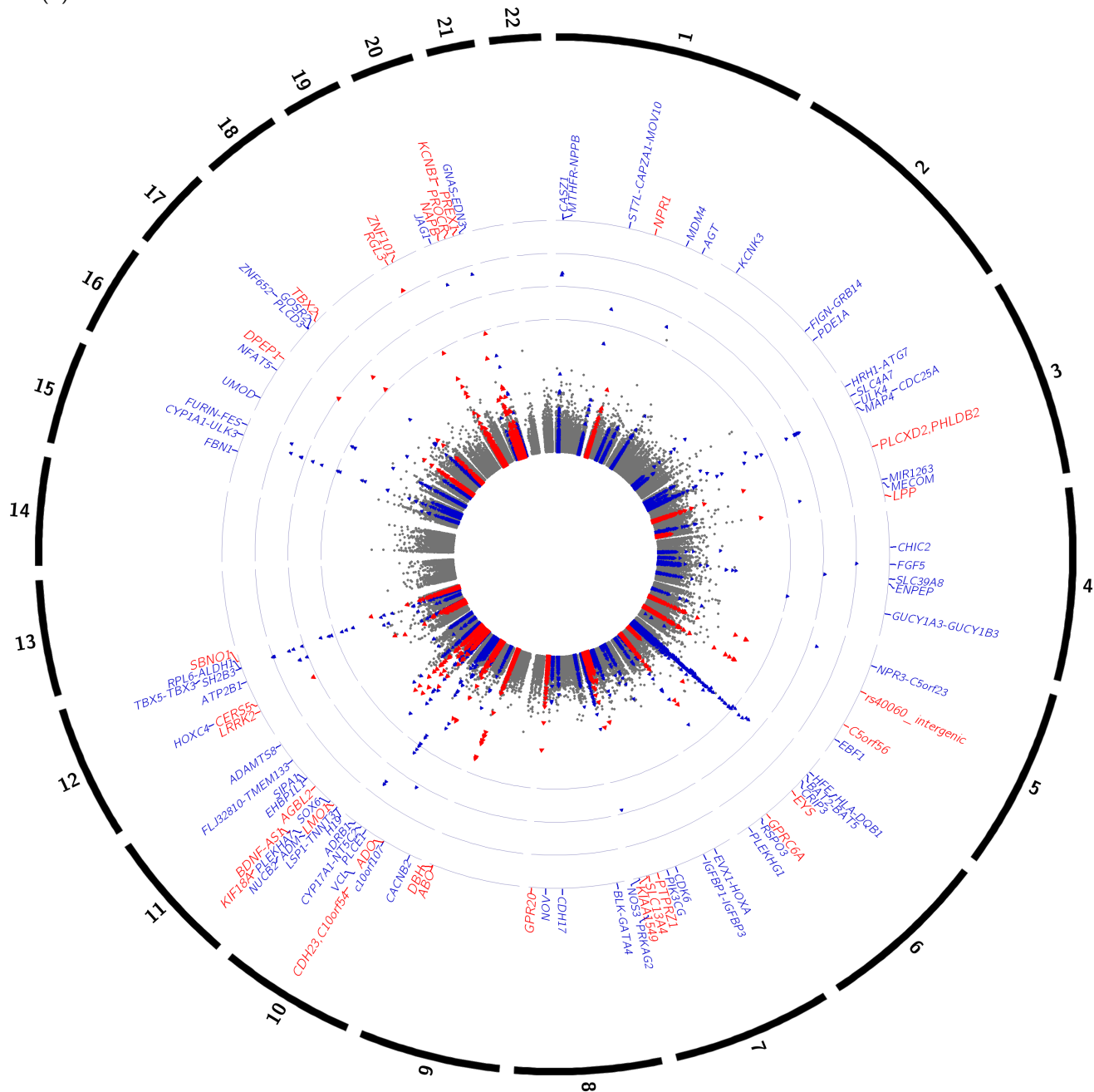
**Supplementary Figure 2: Discovery SNV-BP associations in Europeans (EUR).**

Results are provided for (a) transformed SBP (b) transformed DBP (c) transformed PP and (d) HTN in the European (EUR) discovery samples. The y-axis represents  $-\log_{10}P$  for association. Red triangles represent variants that map to one of the 81 regions selected for replication, blue triangles represent SNVs that map to previously published BP regions, and grey triangles represent all remaining SNVs. SNVs are ordered according to chromosome (black lines on the outside of the plot) and physical position. Genes that SNVs map to are given in the outer blocks.

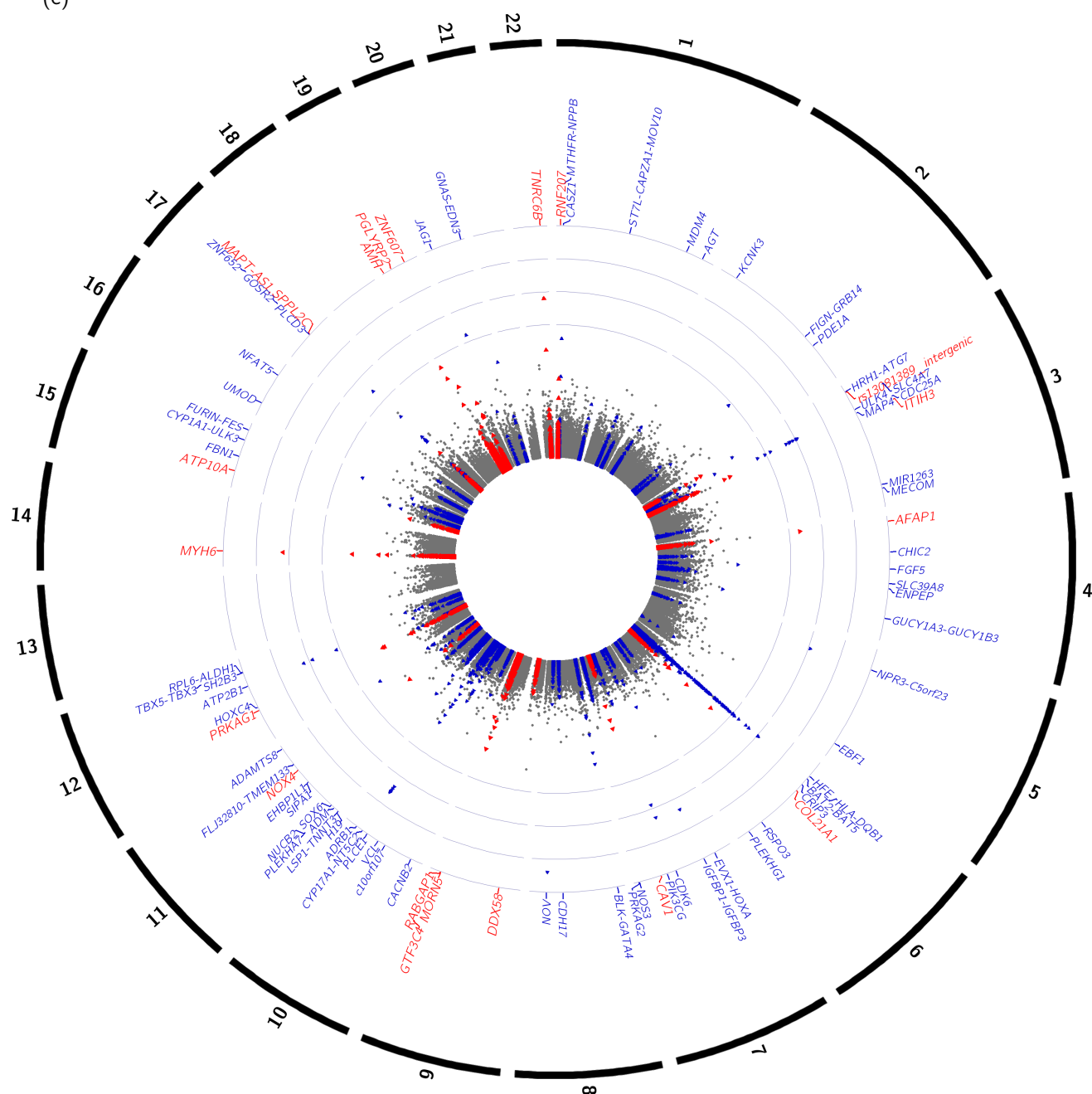
(a)



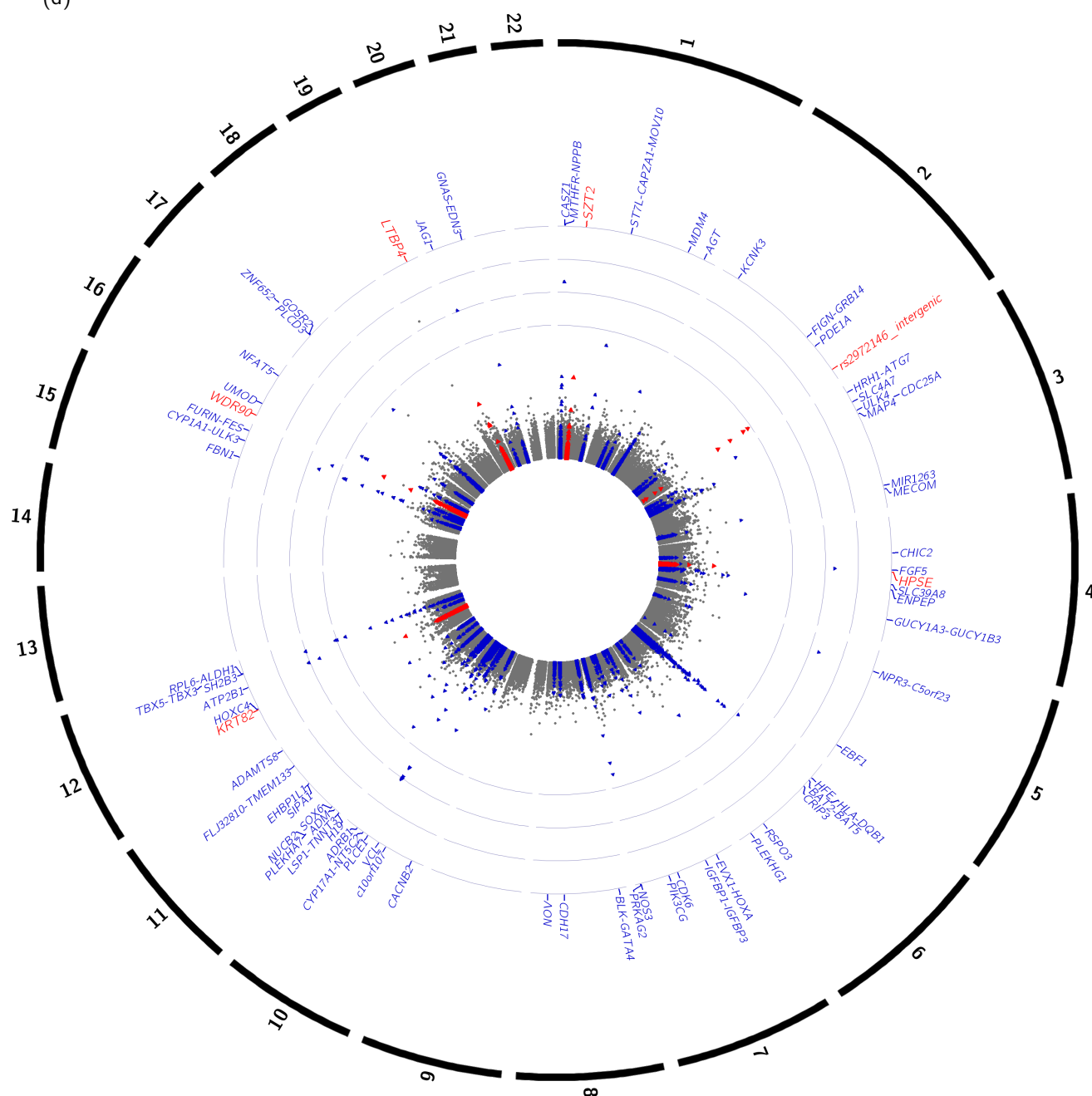
(b)



(c)



(d)

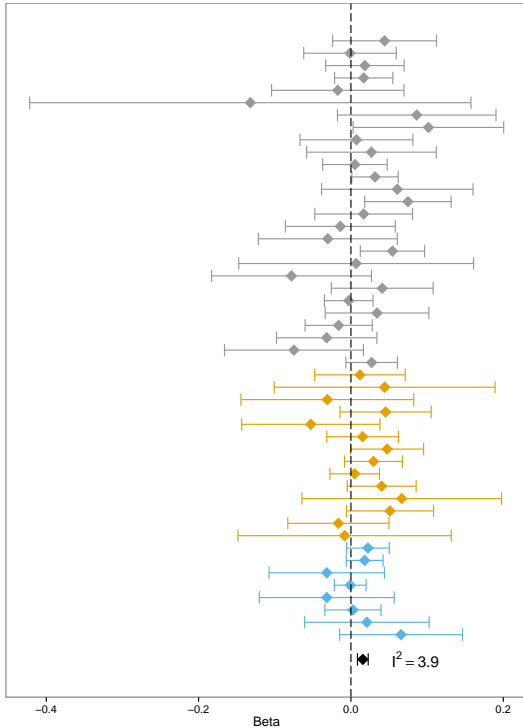


### **Supplementary Figure 3. Forest plots of novel BP variants.**

The discovery results for each novel variant and contributing study is shown. The estimates refer to results of the transformed analysis of SBP, DBP and PP traits. The title per plot indicates the SNV, BP trait and ancestry of the estimates, where the ancestry is either European (EUR) or European and South Asian (ALL). The three consortia are indicated as grey for ExomeBP, gold for GoT2D and blue for CHD Exome+. The tables include information on study name, sample size (N), effect size with sign (Beta), standard error of beta and P-value. The meta-analysis results were from a fixed effect meta-analysis with inverse N weights using METAL.

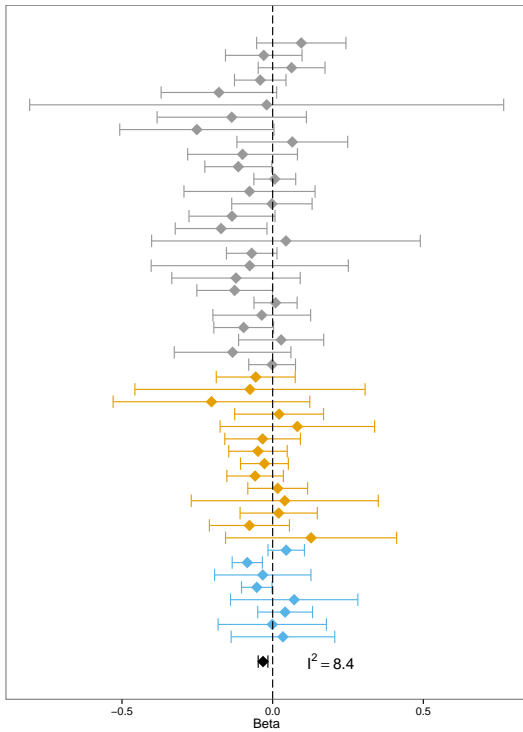
rs709209 in *RNF207* association with PP in EUR

Study Name	N	Beta	SE	P-value
AIRWAVE	1902	0.044	0.035	0.20
ASCOT_SC	2461	-0.0012	0.031	0.97
ASCOT_UK	3245	0.018	0.026	0.49
1958BC	5861	0.017	0.020	0.39
BRIGHT CASES	1105	-0.017	0.044	0.70
BRIGHT CONTROLS	127	-0.13	0.15	0.37
CROATIA-Korcula	824	0.086	0.063	0.10
DIABNORD (GLACIER)	912	0.10	0.050	0.044
EGCUT	1785	0.0072	0.038	0.85
FENLAND controls	1170	0.027	0.043	0.54
FINRISK97/02	5152	0.0052	0.01	0.81
GS-SFHS	9828	0.032	0.016	0.042
GLACIER controls	922	0.061	0.051	0.23
GODARTS_diabetics	2657	0.075	0.029	0.0098
GODARTS_non diabetics	2061	0.017	0.033	0.61
GRAPHIC	1899	-0.014	0.037	0.70
HELICMANOLIS	961	-0.030	0.047	0.52
HUNT	4735	0.055	0.022	0.011
LBC1921	359	0.0069	0.079	0.93
LBC1936	783	-0.078	0.054	0.15
LIFELINES	1948	0.041	0.034	0.23
MDC	8320	-0.0029	0.016	0.86
NFBC1986	1887	0.034	0.035	0.32
OB	4440	-0.016	0.022	0.47
PIVUS/ULSAM	1998	-0.032	0.034	0.34
TwinsUK	1014	-0.075	0.047	0.11
UKHLS	7240	0.027	0.017	0.11
ADDITION	2309	0.012	0.030	0.70
DPS	416	0.044	0.074	0.55
DR's EXTRA	739	-0.031	0.058	0.59
FIN-D2D 2007	2570	0.046	0.031	0.14
FINRISK 2007	1088	-0.053	0.046	0.26
FUSION	4237	0.015	0.024	0.52
Health 2006/2008	3709	0.047	0.024	0.052
Inter99	6077	0.030	0.019	0.13
METSIM	8388	0.0049	0.017	0.77
PPP	4766	0.040	0.023	0.080
SDC	499	0.067	0.067	0.32
SDR/ANDIS	2634	0.051	0.029	0.079
VejleCases	2006	-0.016	0.034	0.63
VejleCtrl	430	-0.0083	0.071	0.91
CCHS	8070	0.022	0.014	0.12
CGPS	11783	0.018	0.012	0.14
CIHDS	1433	-0.032	0.039	0.41
EPIC-CVD	15673	-0.00088	0.011	0.94
EPIC-InterAct	1077	-0.032	0.045	0.48
MORGAM	5757	0.0026	0.019	0.89
PROSPER	1275	0.021	0.042	0.62
WOSCOPS	1336	0.066	0.041	0.11
Summary	161861	0.016	0.0036	1.728e-05



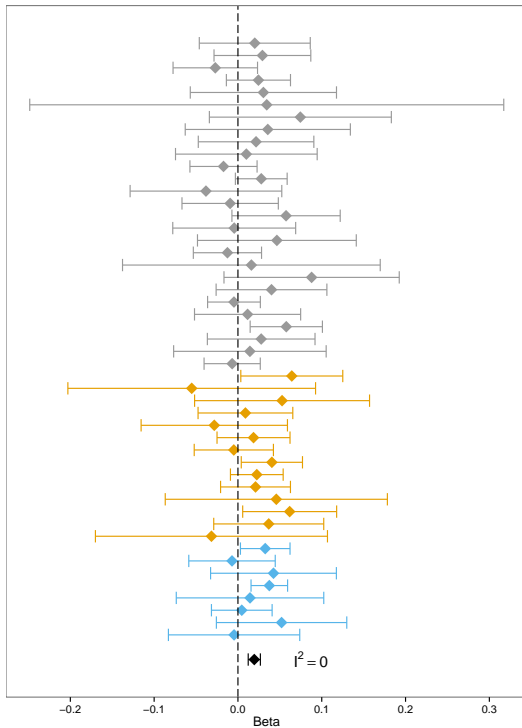
rs16851397 in *ZBTB39* association with DBP in EUR

Study Name	N	Beta	SE	P-value
AIRWAVE	1902	0.095	0.076	0.21
ASCOT_SC	2460	-0.030	0.065	0.65
ASCOT_UK	3245	0.063	0.057	0.27
1958BC	5864	-0.041	0.044	0.34
BRIGHT CASES	1105	-0.18	0.098	0.069
BRIGHT CONTROLS	127	-0.20	0.40	0.96
CROATIA-Korcula	826	-0.14	0.13	0.28
DIABNORD (GLACIER)	912	-0.25	0.13	0.054
EGCUT	1785	0.065	0.094	0.49
FENLAND controls	-0.1170	0.093	0.28	0.74
FINRISK97/02	5153	-0.11	0.057	0.044
GS-SFHS	9827	0.0070	0.035	0.84
GLACIER controls	922	-0.077	0.11	0.49
GODARTS_diabetics	2657	-0.0025	0.068	0.97
GODARTS_non diabetics	2061	-0.13	0.073	0.064
GRAPHIC	1899	-0.17	0.078	0.027
HELICMANOLIS	961	0.044	0.23	0.85
HUNT	4735	-0.070	0.043	0.10
LBC1921	359	-0.076	0.17	0.65
LBC1936	783	-0.12	0.11	0.26
LIFELINES	1948	-0.13	0.064	0.049
MDC	8318	0.0096	0.037	0.79
NFBC1986	1887	-0.036	0.063	0.66
OB	4440	-0.096	0.051	0.057
PIVUS/ULSAM	1998	0.028	0.072	0.70
TwinsUK	1014	-0.13	0.099	0.18
UKHLS	7240	-0.0019	0.040	0.96
ADDITION	2310	-0.056	0.067	0.40
DPS	416	-0.075	0.19	0.70
DR's EXTRA	739	-0.20	0.17	0.22
FIN-D2D 2007	2570	0.021	0.075	0.78
FINRISK 2007	1088	0.082	0.13	0.53
FUSION	4237	-0.033	0.064	0.60
Health 2006/2008	3709	-0.049	0.050	0.33
Inter99	6078	-0.027	0.040	0.50
METSIM	8388	-0.058	0.048	0.22
PPP	4766	0.017	0.051	0.74
SDC	500	0.040	0.16	0.80
SDR/ANDIS	2636	0.020	0.065	0.76
VejleCases	2006	-0.077	0.068	0.26
VejleCtrl	431	0.13	0.14	0.38
CCHS	8070	0.045	0.031	0.15
CGPS	11783	-0.084	0.026	0.00098
CIHDS	1434	-0.033	0.082	0.69
EPIC-CVD	15674	-0.053	0.026	0.041
EPIC-InterAct	1078	0.071	0.11	0.51
MORGAM	5757	0.041	0.046	0.37
PROSPER	1275	-0.0013	0.092	0.99
WOSCOPS	1337	0.034	0.088	0.70
Summary	161880	-0.032	0.0082	0.0001023



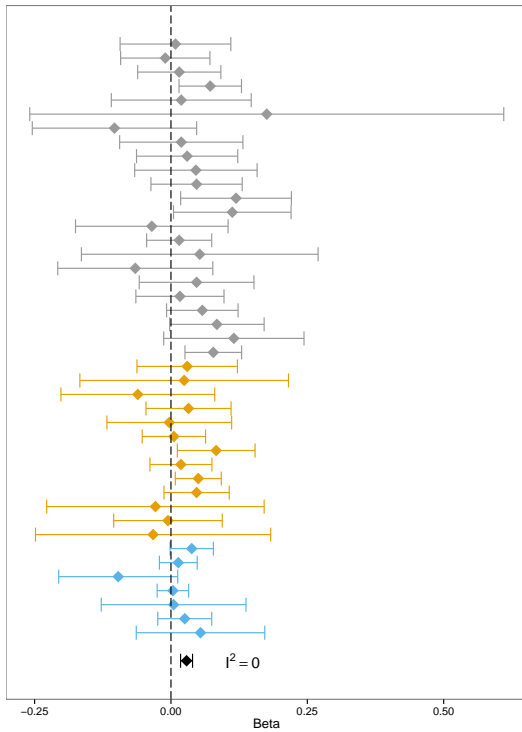
rs2972146 in *Zq36.3* association with DBP in EUR

Study Name	N	Beta	SE	P-value
AIRWAVE	1902	0.020	0.034	0.55
ASCOT_SC	2459	0.029	0.029	0.32
ASCOT_UK	3245	-0.027	0.026	0.29
1958BC	5864	0.024	0.020	0.21
BRIGHT CASES	1105	0.030	0.045	0.50
BRIGHT CONTROLS	127	0.034	0.14	0.81
CROATIA-Korcula	822	0.074	0.053	0.18
DIABNORD (GLACIER)	912	0.036	0.050	0.48
EGCUT	1785	0.022	0.035	0.54
FENLAND controls	1170	0.010	0.043	0.82
FINRISK97/02	5152	-0.017	0.020	0.40
GS-SFHS	9828	0.028	0.016	0.077
GLACIER controls	922	-0.038	0.046	0.41
GODARTS_diabetics	2657	-0.0093	0.029	0.75
GODARTS_non diabetics	2061	0.057	0.033	0.082
GRAPHIC	1899	-0.0044	0.037	0.90
HELICMANOLIS	961	0.046	0.048	0.34
HUNT	4735	-0.013	0.021	0.55
LBC1921	359	0.016	0.078	0.84
LBC1936	783	0.088	0.053	0.10
LIFELINES	1948	0.040	0.034	0.24
MDC	8306	-0.0047	0.016	0.77
NFBC1986	1887	0.012	0.032	0.72
OB	4440	0.058	0.022	0.0088
PIVUS/ULSAM	1998	0.028	0.033	0.40
TwinsUK	1014	0.014	0.046	0.76
UKHLS	7240	-0.0069	0.017	0.69
ADDITION	2310	0.064	0.031	0.039
DPS	415	-0.055	0.075	0.46
DR's EXTRA	739	0.08	0.053	0.32
FIN-D2D 2007	2570	0.0089	0.029	0.76
FINRISK 2007	1088	-0.028	0.045	0.53
FUSION	4237	0.019	0.022	0.40
Health 2006/2008	3705	-0.0049	0.024	0.84
Inter99	6075	0.040	0.019	0.030
METSIM	8389	0.023	0.016	0.16
PPP	4766	0.021	0.021	0.32
SDC	499	0.046	0.068	0.50
SDR/ANDIS	2636	0.029	0.029	0.031
VejleCases	2005	0.037	0.033	0.27
VejleCtrl	430	-0.032	0.071	0.65
CCHS	8070	0.033	0.015	0.031
CGPS	11783	-0.0071	0.021	0.79
CIHDS	1434	0.042	0.038	0.27
EPIC-CVD	15674	0.037	0.011	0.00077
EPIC-InterAct	1078	0.014	0.045	0.75
MORGAM	5757	0.0046	0.018	0.80
PROSPER	1275	0.025	0.040	0.19
WOSCOPS	1337	-0.0046	0.040	0.91
Summary	161853	0.020	0.0037	1.757e-07



rs1008058 in *PRDM6* association with SBP in EUR

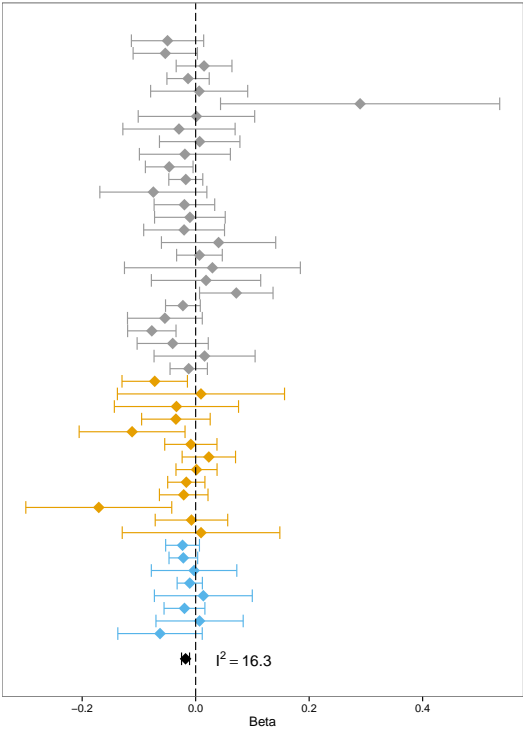
Study Name	N	Beta	SE	P-value
AIRWAVE	1902	0.0082	0.052	0.87
ASCOT_SC	2461	-0.010	0.042	0.80
ASCOT_UK	3245	0.015	0.039	0.70
1958BC	5864	0.072	0.029	0.014
BRIGHT CASES	1105	0.019	0.065	0.77
BRIGHT CONTROLS	127	0.18	0.22	0.43
CROATIA-Korcula	820	-0.10	0.077	0.18
DIABNORD (GLACIER)	912	0.019	0.058	0.74
EGCUT	1785	0.030	0.047	0.53
GLACIER controls	922	0.046	0.057	0.42
GODARTS_diabetics	2657	0.047	0.043	0.27
GODARTS_non diabetics	2061	0.12	0.052	0.021
GRAPHIC	1899	0.11	0.055	0.042
HELICMANOLIS	961	-0.035	0.071	0.62
HUNT	4735	0.015	0.030	0.62
LBC1921	359	0.053	0.11	0.63
LBC1936	782	-0.065	0.073	0.37
LIFELINES	1948	0.047	0.054	0.38
NFBC1986	1887	0.016	0.041	0.69
OB	4440	0.057	0.033	0.086
PIVUS/ULSAM	1998	0.084	0.044	0.057
TwinsUK	1014	0.12	0.066	0.079
UKHLS	7240	0.078	0.027	0.0034
ADDITION	2310	0.030	0.047	0.53
DPS	416	0.024	0.098	0.80
DR's EXTRA	739	-0.061	0.072	0.40
FIN-D2D 2007	2570	0.032	0.040	0.42
FINRISK 2007	1088	-0.0031	0.058	0.96
FUSION	4237	0.0053	0.030	0.86
Health 2006/2008	3709	0.083	0.036	0.023
Inter99	6080	0.018	0.029	0.53
METSIM	8386	0.050	0.022	0.020
PPP	4766	0.047	0.031	0.12
SDC	500	-0.029	0.10	0.78
VejleCases	2000	-0.0055	0.051	0.91
VejleCtrl	430	-0.033	0.11	0.77
CCHS	8070	0.038	0.020	0.060
CGPS	11784	0.013	0.018	0.45
CIHDS	1436	-0.097	0.056	0.082
EPIC-CVD	15676	0.0036	0.015	0.81
EPIC-InterAct	1077	0.0048	0.068	0.94
MORGAM	5757	0.025	0.025	0.32
WOSCOPS	1337	0.054	0.060	0.37
Summary	133492	0.029	0.0056	2.692e-07





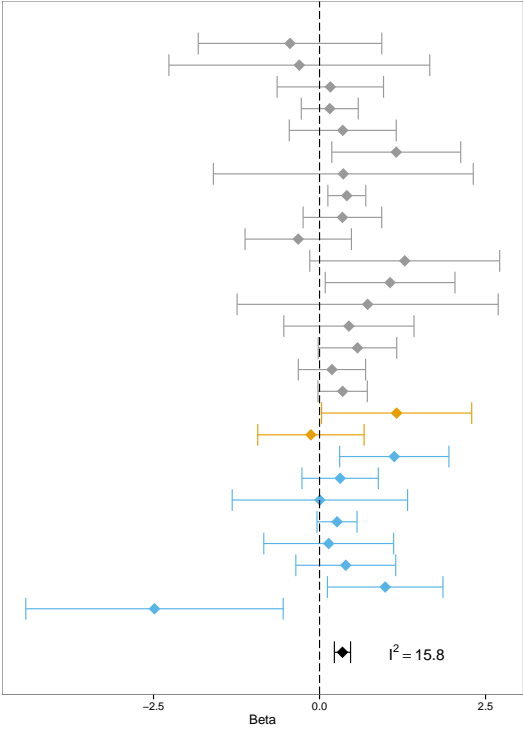
rs12521868 in *c5orf56* association with DBP in EUR

Study Name	N	Beta	SE	P-value
AIRWAVE	1898	-0.050	0.032	0.13
ASCOT_SC	2461	-0.054	0.029	0.064
ASCOT_UK	3236	0.015	0.025	0.55
1958BC	5864	-0.013	0.019	0.48
BRIGHT CASES	1105	0.0062	0.044	0.89
BRIGHT CONTROLS	127	0.29	0.13	0.023
CROATIA-Korcula	821	0.0014	0.052	0.98
DIABNORD (GLACIER)	912	-0.029	0.050	0.56
EGGUT	1785	0.0071	0.036	0.84
FENLAND controls	1170	-0.019	0.041	0.64
FINRISK97/02	5153	-0.047	0.021	0.030
GS-SFHS	9827	-0.017	0.015	0.26
GLACIER controls	919	-0.075	0.048	0.12
GODARTS_diabetics	2657	-0.020	0.027	0.47
GODARTS_non diabetics	2061	-0.010	0.032	0.75
GRAPHIC	1899	-0.020	0.036	0.58
HELICMANOLIS	959	0.040	0.051	0.43
HUNT	4735	0.0067	0.021	0.74
LBC1921	359	0.030	0.079	0.71
LBC1936	783	0.018	0.049	0.71
LIFELINES	1945	0.072	0.033	0.030
MDC	8316	-0.022	0.016	0.15
NFBC1986	1886	-0.054	0.034	0.11
OB	4440	-0.077	0.022	0.00039
PIVUS/ULSAM	1998	-0.040	0.032	0.21
TwinsUK	1014	0.016	0.045	0.73
UKHLS	7240	-0.012	0.017	0.47
ADDITION	2310	-0.072	0.029	0.014
DPS	416	0.0094	0.075	0.90
DR's EXTRA	737	-0.034	0.056	0.54
FIN-D2D 2007	2568	-0.035	0.031	0.26
FINRISK 2007	1085	-0.11	0.048	0.019
FUSION	4227	-0.0085	0.023	0.72
Health 2006/2008	3709	0.023	0.024	0.33
Inter99	6078	0.0015	0.018	0.93
METSIM	8389	-0.016	0.017	0.32
PPP	4766	-0.021	0.022	0.34
SDC	500	-0.17	0.066	0.0095
VeieCases	2006	-0.0674	0.033	0.02
VeieCtrl	430	0.0095	0.071	0.89
CCHS	8070	-0.023	0.015	0.13
CGPS	11783	-0.022	0.013	0.092
CIHDS	1434	-0.0028	0.038	0.94
EPIC-CVD	15674	-0.010	0.011	0.36
EPIC-InterAct	1076	0.014	0.044	0.76
MORGAM	5757	-0.020	0.018	0.28
PROSPER	1275	0.0069	0.039	0.86
WOSCOPS	1337	-0.063	0.038	0.098
Summary	159198	-0.018	0.0036	9.442e-07



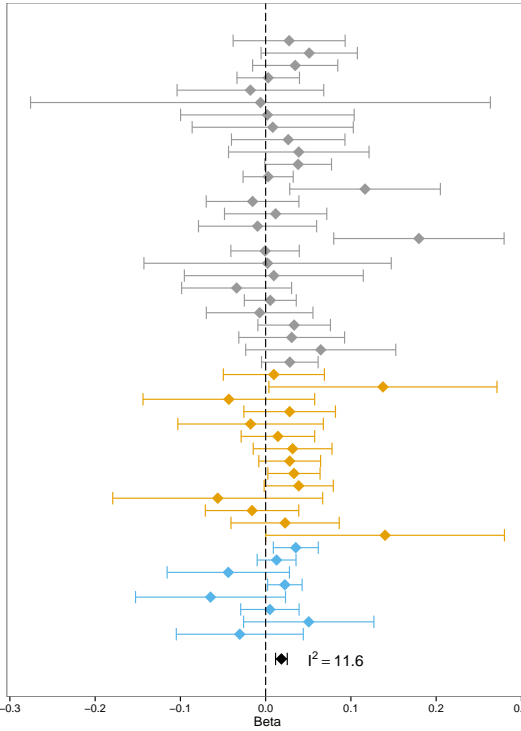
rs200999181 in *COL21A1* association with PP in EUR

Study Name	N	Beta	SE	P-value
AIRWAVE	1902	-0.44	0.70	0.53
ASCOT_SC	2458	-0.30	1.0	0.76
ASCOT_UK	3245	0.16	0.41	0.69
1958BC	5861	0.15	0.22	0.48
BRIGHT CASES	1105	0.35	0.41	0.40
FENLAND controls	1170	1.2	0.50	0.020
FINRISK97/02	5152	0.36	1.0	0.72
GS-SFHS	9805	0.41	0.15	0.0048
GODARTS_diabetics	2657	0.34	0.30	0.25
GODARTS_non diabetics	2061	-0.32	0.41	0.43
GRAPHIC	1899	1.3	0.73	0.079
HUNT	4735	1.1	0.50	0.033
LBC1936	783	0.72	1.0	0.47
LIFELINES	1948	0.44	0.50	0.38
MDC	8307	0.57	0.30	0.058
OB	4440	0.19	0.26	0.47
UKHLS	7238	0.35	0.19	0.067
Health 2006/2008	3709	1.2	0.58	0.044
Inter99	6077	-0.13	0.41	0.75
CCHS	8070	1.1	0.42	0.0074
CGPS	11783	0.31	0.29	0.29
CIHDS	1434	0.0051	0.67	0.99
EPIC-CVD	15673	0.26	0.15	0.087
EPIC-InterAct	1076	0.14	0.50	0.78
MORGAM	5757	0.39	0.38	0.30
PROSPER	1275	0.99	0.44	0.026
WOSCOPS	1337	-2.5	0.99	0.012
Summary	120957	0.35	0.062	3.083e-08



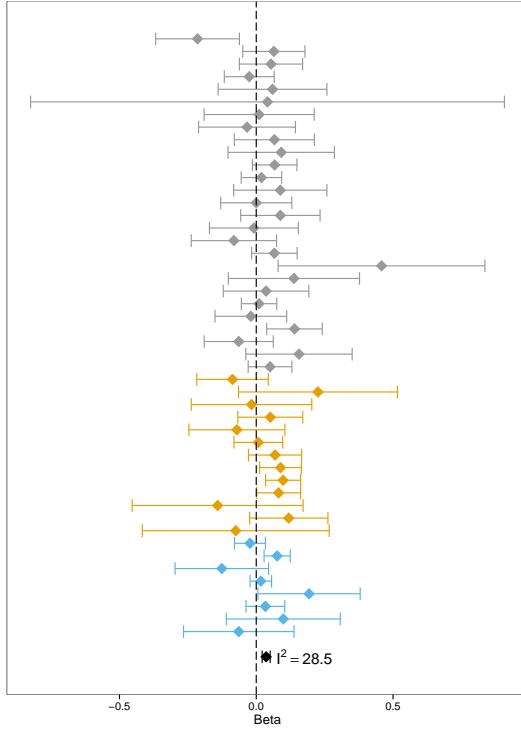
rs9349379 in *PHACTR1* association with SBP in EUR

Study Name	N	Beta	SE	P-value
AIRWAVE	1902	0.028	0.034	0.41
ASCOT_SC	2459	0.051	0.029	0.076
ASCOT_UK	3245	0.035	0.025	0.17
1958BC	5864	0.0030	0.019	0.87
BRIGHT CASES	1105	-0.018	0.044	0.68
BRIGHT CONTROLS	127	-0.0061	0.14	0.96
CROATIA-Korcula	823	0.0020	0.052	0.97
DIABNORD (GLACIER)	912	0.0083	0.048	0.86
EGGUT	1785	0.026	0.034	0.44
FENLAND controls	1170	0.039	0.042	0.36
FINRISK97/02	5149	0.038	0.020	0.057
GS-SFHS	9829	0.0029	0.015	0.85
GLACIER controls	922	0.12	0.045	0.0098
GODARTS_diabetics	2657	-0.015	0.028	0.58
GODARTS_non diabetics	2061	0.012	0.031	0.70
GRAPHIC	1898	-0.0095	0.035	0.79
HELICMANOLIS	961	0.18	0.051	0.00044
HUNT	4735	-0.00066	0.020	0.97
LBC1921	359	0.0023	0.074	0.98
LBC1936	783	0.0096	0.054	0.86
LIFELINES	1948	-0.034	0.033	0.30
MDC	8313	0.0055	0.016	0.73
NFBC1986	1887	-0.0071	0.032	0.83
OB	4440	0.033	0.022	0.12
PIVUS/ULSAM	1998	0.031	0.032	0.33
TwinsUK	1014	0.065	0.045	0.15
UKHLS	7238	0.017	0.017	0.094
ADDITION	2310	0.0096	0.030	0.75
DPS	416	0.14	0.068	0.044
DR's EXTRA	739	-0.043	0.051	0.40
FIN-D2D 2007	2570	0.029	0.027	0.30
FINRISK 2007	1088	-0.018	0.044	0.68
FUSION	4237	0.014	0.022	0.51
Health 2006/2008	3709	0.032	0.024	0.18
Inter99	6080	0.028	0.018	0.13
METSIM	8388	0.033	0.016	0.033
PPP	4766	0.039	0.021	0.061
SDC	500	-0.056	0.063	0.37
SDR/ANDIS	2636	-0.016	0.028	0.57
VeieCases	2000	0.023	0.032	0.48
VeieCtrl	430	0.071	0.071	0.051
CCHS	8070	0.035	0.013	0.0085
CGPS	11784	0.013	0.012	0.27
CIHDS	1436	-0.044	0.037	0.23
EPIC-CVD	15676	0.023	0.010	0.029
EPIC-InterAct	1077	-0.065	0.15	0.68
MORGAM	5757	0.0050	0.017	0.78
PROSPER	1275	0.051	0.039	0.19
WOSCOPS	1337	-0.030	0.038	0.42
Summary	161865	0.018	0.0035	8.093e-08

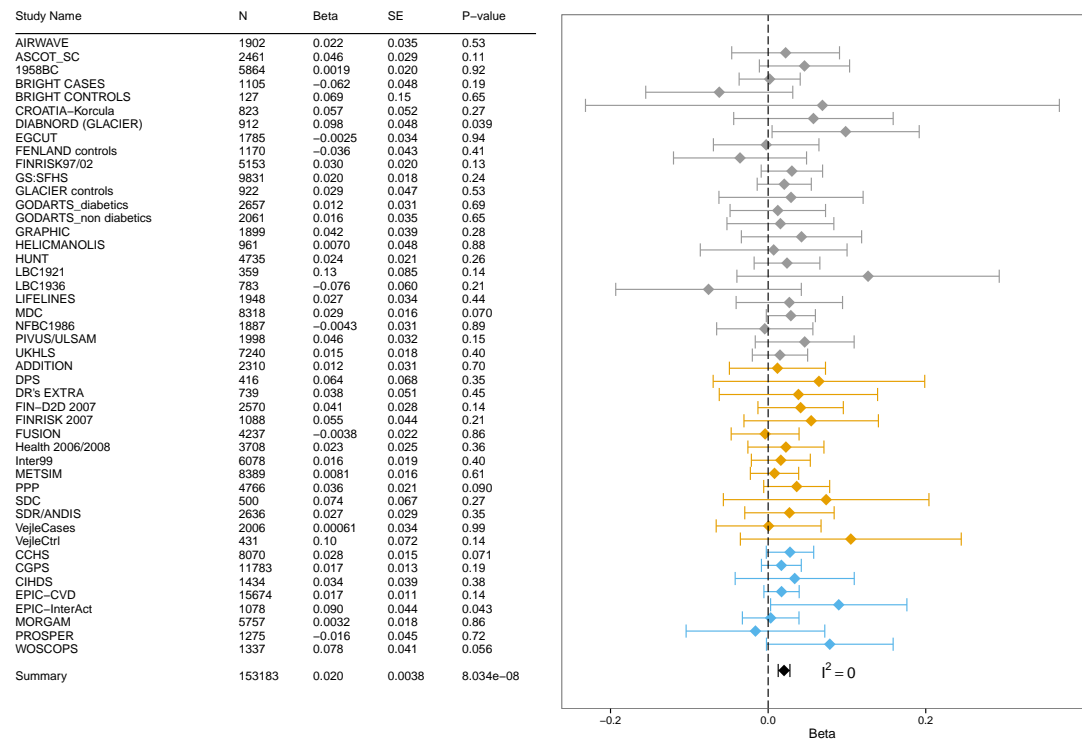


rs34591516 in *GPR20* association with SBP in EUR

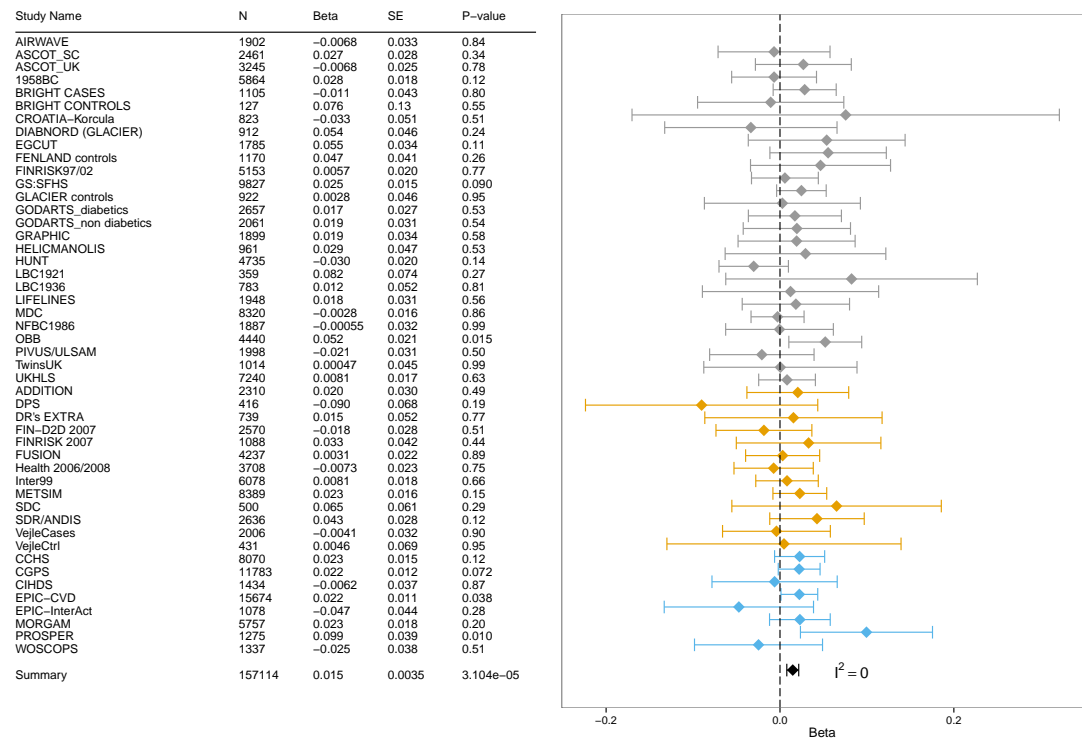
Study Name	N	Beta	SE	P-value
AIRWAVE	1902	-0.21	0.078	0.0061
ASCOT_SC	2459	0.064	0.058	0.27
ASCOT_UK	3245	0.054	0.059	0.36
1958BC	5864	-0.026	0.047	0.58
BRIGHT CASES	1105	0.060	0.10	0.56
BRIGHT CONTROLS	127	0.041	0.44	0.93
CROATIA-Korcula	827	0.011	0.10	0.91
DIABNORD (GLACIER)	912	-0.034	0.090	0.71
EGGUT	1785	0.066	0.075	0.38
FENLAND controls	1170	0.091	0.099	0.36
FINRISK97/02	5151	0.067	0.041	0.11
GS-SFHS	9824	0.019	0.038	0.61
GLACIER controls	922	0.088	0.087	0.31
GODARTS_diabetics	2657	0.00016	0.066	1.0
GODARTS_non diabetics	2061	0.088	0.074	0.23
GRAPHIC	1899	-0.0086	0.083	0.92
HELICMANOLIS	961	-0.082	0.080	0.31
HUNT	4735	0.066	0.042	0.12
LBC1921	359	0.46	0.19	0.018
LBC1936	783	0.14	0.12	0.26
LIFELINES	1948	0.036	0.080	0.65
MDC	8302	0.010	0.033	0.76
NFBC1986	1887	-0.020	0.067	0.77
OB	4440	0.14	0.052	0.0070
PIVUS/ULSAM	1998	-0.064	0.064	0.32
TwinsUK	1014	0.16	0.099	0.12
UKHLS	7240	0.050	0.041	0.22
ADDITION	2310	-0.087	0.067	0.19
DPS	416	0.23	0.15	0.13
DR's EXTRA	739	-0.017	0.11	0.88
FIN-D2D 2007	2570	0.051	0.061	0.40
FINRISK 2007	1088	-0.071	0.090	0.43
FUSION	4237	0.0077	0.045	0.87
Health 2006/2008	3709	0.069	0.050	0.16
Inter99	6080	0.089	0.039	0.023
METSIM	8389	0.033	0.033	0.0026
PPP	4766	0.082	0.041	0.046
SDC	500	-0.14	0.16	0.38
VeieCases	2000	0.12	0.073	0.10
VeieCtrl	430	-0.075	0.17	0.67
CCHS	8070	-0.023	0.029	0.43
CGPS	11784	0.076	0.024	0.0017
CIHDS	1436	-0.13	0.087	0.15
EPIC-CVD	15676	0.017	0.020	0.40
EPIC-InterAct	1077	0.19	0.095	0.043
MORGAM	5757	0.033	0.036	0.36
PROSPER	1275	0.099	0.11	0.35
WOSCOPS	1337	-0.064	0.10	0.53
Summary	159223	0.036	0.0075	1.364e-06



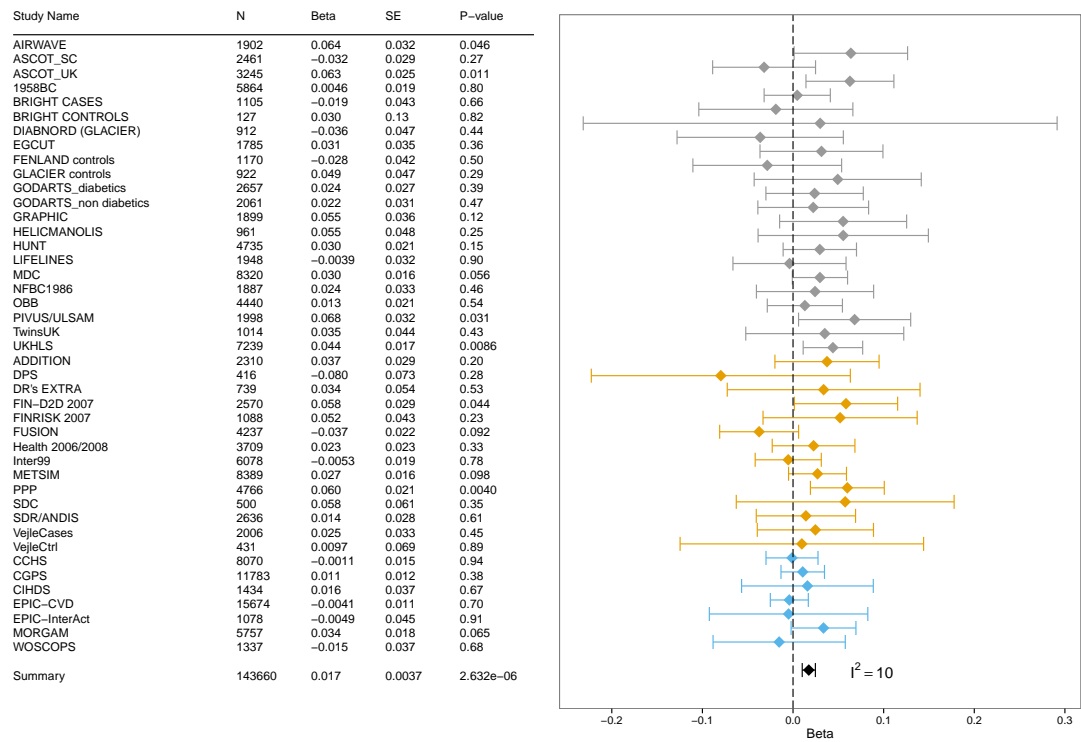
rs687621 in ABO association with DBP in EUR



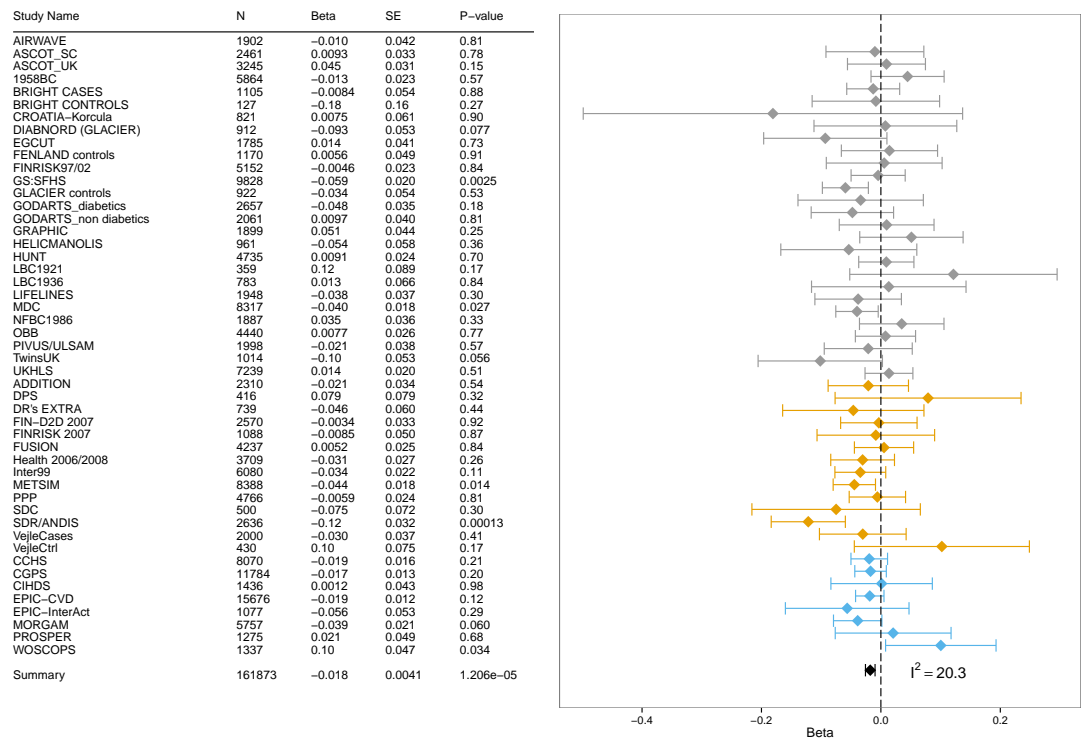
rs110419 in LMO1 association with DBP in EUR



rs10995311 in ADO association with DBP in EUR

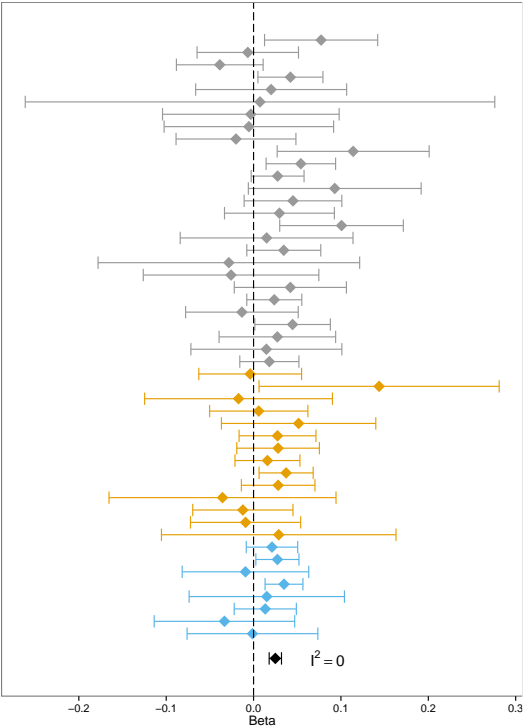


rs11229457 in OR5B12 association with SBP in EUR



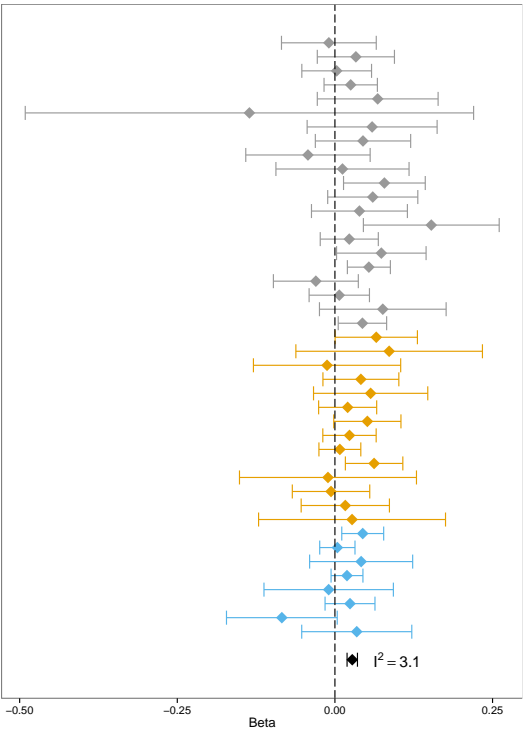
rs7302981 in *CERS5* association with DBP in EUR

Study Name	N	Beta	SE	P-value
AIRWAVE	1902	0.077	0.033	0.019
ASCOT_SC	2461	-0.0066	0.030	0.82
ASCOT_UK	3245	-0.039	0.025	0.13
1958BC	5864	0.042	0.019	0.026
BRIGHT CASES	1105	0.020	0.044	0.65
BRIGHT CONTROLS	127	0.0074	0.14	0.96
CROATIA-Korcula	825	-0.0031	0.052	0.95
DIABNORD (GLACIER)	912	-0.0054	0.050	0.91
EGCUT	1785	-0.020	0.035	0.57
FENLAND controls	1170	0.11	0.044	0.010
FINRISK97/02	5153	0.054	0.020	0.0077
GS-SFHS	9829	0.028	0.015	0.075
GLACIER controls	922	0.093	0.050	0.066
GODARTS_diabetics	2657	0.045	0.029	0.11
GODARTS_non diabetics	2061	0.030	0.032	0.36
GRAPHIC	1899	0.10	0.036	0.0053
HELICMANOLIS	961	0.015	0.050	0.77
HUNT	4735	0.035	0.022	0.11
LBC1921	359	-0.028	0.076	0.71
LBC1936	783	-0.026	0.051	0.82
LIFELINES	1948	0.042	0.033	0.20
MDC	8320	0.024	0.016	0.14
NFBC1986	1887	-0.013	0.033	0.69
OB	4440	0.045	0.022	0.043
PIVUS/ULSAM	1998	0.027	0.034	0.42
TwinsUK	1014	0.015	0.044	0.74
UKHLS	7240	0.018	0.017	0.30
ADDITION	2310	-0.0039	0.030	0.90
DPS	416	0.14	0.070	0.041
DR's EXTRA	739	-0.017	0.055	0.75
FIN-D2D 2007	2570	0.0059	0.029	0.84
FINRISK 2007	1088	0.052	0.045	0.25
FUSION	4237	0.027	0.022	0.22
Health 2006/2008	3709	0.028	0.024	0.24
Inter99	6078	0.016	0.019	0.40
METSIM	8388	0.037	0.016	0.018
PPP	4766	0.028	0.021	0.19
SDC	500	-0.036	0.066	0.59
SDR/ANDIS	2636	-0.012	0.029	0.88
VejleCases	2006	-0.0092	0.032	0.78
VejleCtrl	431	0.029	0.068	0.67
CCHS	8070	0.021	0.015	0.16
CGPS	11783	0.027	0.013	0.030
CHDS	1434	-0.0093	0.037	0.80
EPIC-CVD	15674	0.035	0.011	0.0016
EPIC-InterAct	1078	0.015	0.045	0.74
MORGAM	5757	0.013	0.018	0.46
PROSPER	1275	-0.033	0.041	0.41
WOSCOPS	1337	-0.0013	0.038	0.97
Summary	161884	0.025	0.0036	3.734e-12



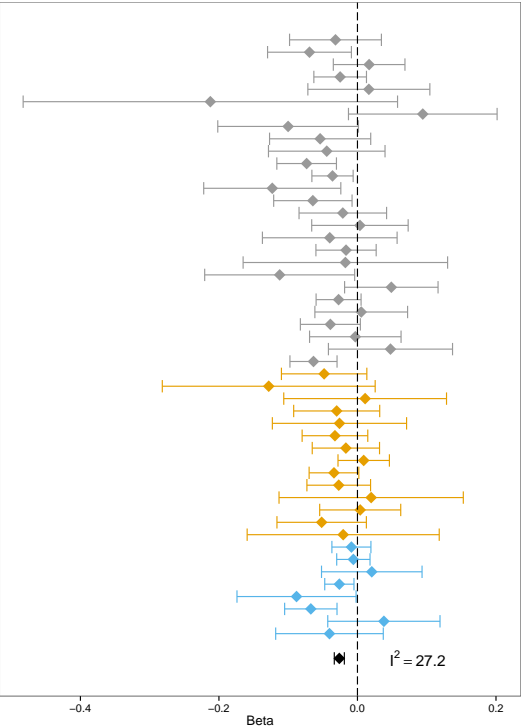
rs1126464 in *DPEP1* association with DBP in EUR

Study Name	N	Beta	SE	P-value
AIRWAVE	1902	-0.0096	0.038	0.80
ASCOT_SC	2461	0.033	0.031	0.29
ASCOT_UK	3245	0.0028	0.028	0.92
1958BC	5864	0.025	0.022	0.25
BRIGHT CASES	1105	0.068	0.049	0.17
BRIGHT CONTROLS	127	-0.14	0.18	0.46
DIABNORD (GLACIER)	912	0.059	0.053	0.26
EGCUT	1785	0.045	0.039	0.25
FENLAND controls	1170	-0.043	0.050	0.40
GLACIER controls	922	0.012	0.054	0.82
GODARTS_diabetics	2657	0.078	0.033	0.018
GODARTS_non diabetics	2061	0.060	0.036	0.10
GRAPHIC	1899	0.039	0.039	0.32
HELICMANOLIS	961	0.15	0.055	0.0059
HUNT	4735	0.023	0.023	0.33
LIFELINES	1948	0.074	0.036	0.042
MDC	8315	0.054	0.017	0.0020
NFBC1986	1887	-0.030	0.034	0.38
OB	4440	0.0069	0.024	0.78
TwinsUK	1014	0.076	0.051	0.14
UKHLS	7240	0.044	0.020	0.026
ADDITION	2310	0.066	0.033	0.049
DPS	416	0.086	0.075	0.26
DR's EXTRA	739	-0.012	0.060	0.83
FIN-D2D 2007	2570	0.041	0.031	0.18
FINRISK 2007	1088	0.057	0.046	0.22
FUSION	4237	0.020	0.023	0.39
Health 2006/2008	3709	0.051	0.027	0.059
Inter99	6078	0.023	0.022	0.28
METSIM	8389	0.0078	0.017	0.64
PPP	4766	0.062	0.023	0.0076
SDC	500	-0.011	0.072	0.88
SDR/ANDIS	2636	-0.0062	0.031	0.84
VejleCases	2006	0.016	0.036	0.65
VejleCtrl	431	0.027	0.076	0.72
CCHS	8070	0.044	0.017	0.0093
CGPS	11783	0.0039	0.014	0.79
CHDS	1434	0.042	0.042	0.32
EPIC-CVD	15674	0.019	0.013	0.14
EPIC-InterAct	1078	-0.0099	0.052	0.85
MORGAM	5757	0.024	0.020	0.24
PROSPER	1275	-0.084	0.045	0.060
WOSCOPS	1337	0.035	0.045	0.44
Summary	142933	0.028	0.0042	8.367e-11



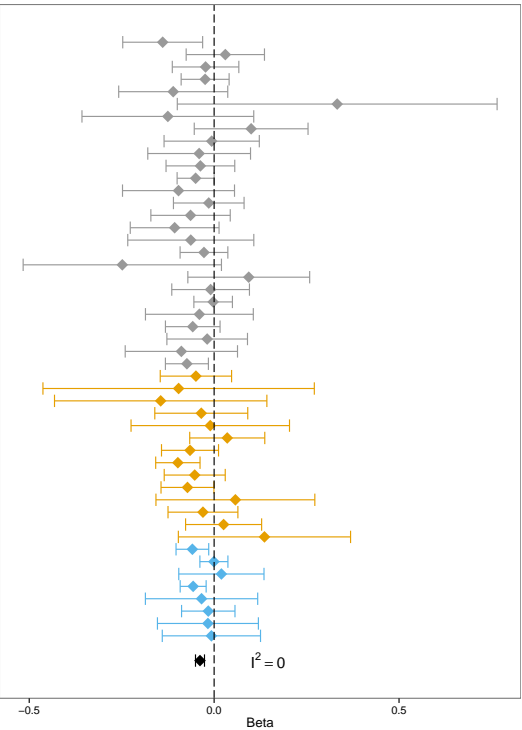
rs452036 in *MYH6* association with PP in EUR

Study Name	N	Beta	SE	P-value
AIRWAVE	1902	-0.032	0.034	0.35
ASCOT_SC	2461	-0.069	0.031	0.025
ASCOT_UK	3245	0.017	0.026	0.52
1958BC	5861	-0.025	0.019	0.20
BRIGHT CASES	1105	0.016	0.045	0.71
BRIGHT CONTROLS	127	-0.21	0.14	0.13
CROATIA-Korcula	824	0.094	0.055	0.085
DIABNORD (GLACIER)	912	-0.10	0.052	0.054
EGCUT	1785	-0.054	0.037	0.15
FENLAND controls	1170	-0.044	0.043	0.30
FINRISK97/02	5150	-0.073	0.022	0.00084
GS-SFHS	9827	-0.036	0.015	0.018
GLACIER controls	922	-0.12	0.050	0.015
GODARTS_diabetics	2657	-0.064	0.029	0.026
GODARTS_non diabetics	2061	-0.021	0.032	0.51
GRAPHIC	1899	0.0036	0.036	0.92
HELICMANOLIS	961	-0.040	0.050	0.42
HUNT	4735	-0.016	0.022	0.46
LBC1921	359	-0.017	0.075	0.82
LBC1936	783	-0.11	0.055	0.042
LIFELINES	1948	0.049	0.034	0.16
MDC	8318	-0.027	0.017	0.10
NFBC1986	1887	0.0055	0.034	0.87
OB	4440	-0.039	0.022	0.077
PIVUS/ULSAM	1998	-0.031	0.034	0.32
TwinsUK	1014	0.048	0.046	0.30
UKHLS	7236	-0.063	0.017	0.00025
ADDITION	2309	-0.048	0.031	0.13
DPS	416	-0.13	0.078	0.10
DR's EXTRA	739	0.011	0.060	0.85
FIN-D2D 2007	2570	-0.030	0.032	0.34
FINRISK 2007	1088	-0.026	0.049	0.60
FUSION	4237	-0.032	0.024	0.18
Health 2006/2008	3709	-0.017	0.025	0.50
Inter99	6077	0.090	0.019	0.63
METSIM	8388	-0.034	0.018	0.064
PPP	4766	-0.027	0.023	0.25
SDC	499	0.020	0.068	0.77
SDR/ANDIS	2634	0.0240	0.030	0.89
VejleCases	2000	-0.052	0.033	0.12
VejleCtrl	430	-0.021	0.071	0.77
CCHS	8070	-0.0087	0.014	0.54
CGPS	11781	-0.0059	0.012	0.63
CHDS	1433	0.021	0.037	0.58
EPIC-CVD	15672	-0.026	0.011	0.015
EPIC-InterAct	1077	-0.088	0.044	0.045
MORGAM	5757	-0.067	0.019	0.00049
PROSPER	1275	0.038	0.041	0.36
WOSCOPS	1336	-0.040	0.040	0.31
Summary	161850	-0.026	0.0037	7.945e-13

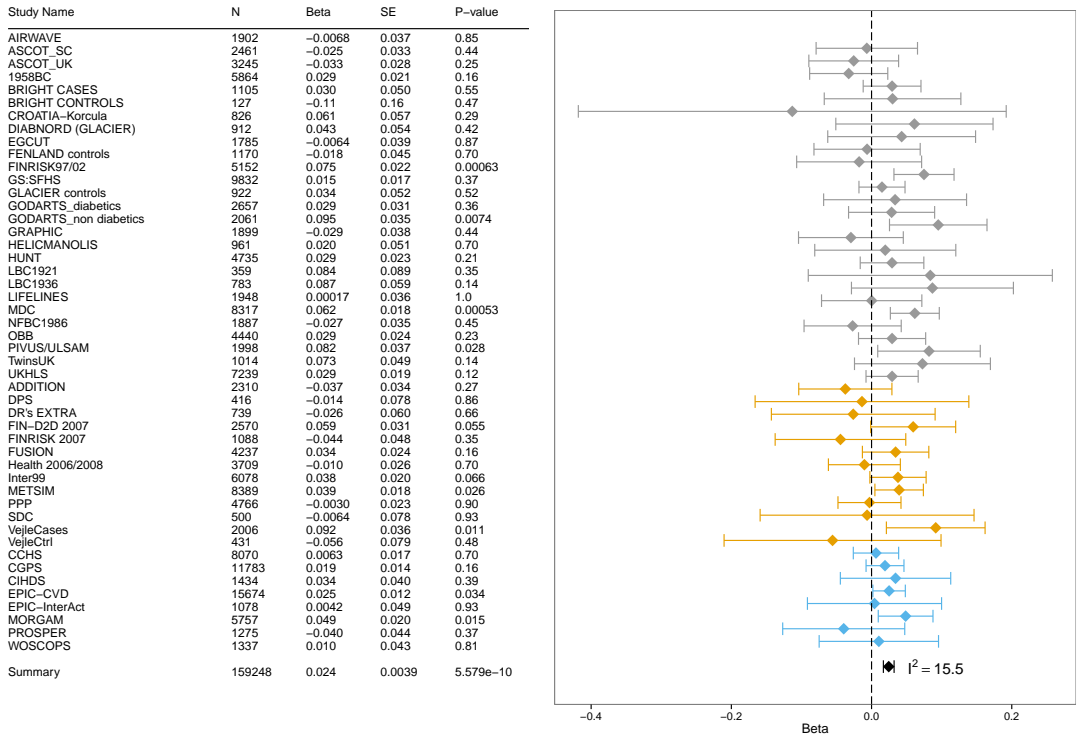


rs7406910 in *HOXB7* association with SBP in EUR

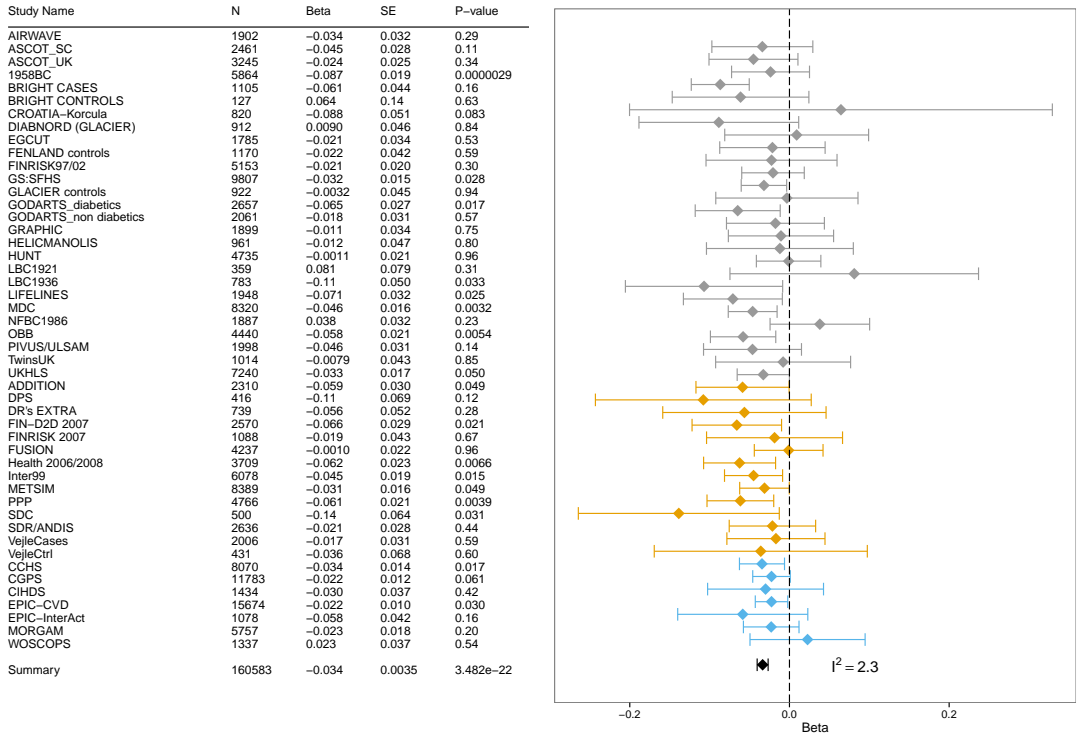
Study Name	N	Beta	SE	P-value
AIRWAVE	1902	-0.14	0.055	0.012
ASCOT_SC	2460	0.030	0.054	0.58
ASCOT_UK	3245	-0.023	0.046	0.61
1958BC	5864	-0.024	0.033	0.46
BRIGHT CASES	1105	-0.11	0.075	0.14
BRIGHT CONTROLS	127	0.33	0.22	0.13
CROATIA-Korcula	827	-0.13	0.12	0.29
DIABNORD (GLACIER)	912	0.10	0.078	0.20
EGCUT	1785	-0.0066	0.066	0.92
FENLAND controls	1170	-0.040	0.071	0.57
FINRISK97/02	5152	-0.037	0.047	0.43
GS-SFHS	9832	-0.050	0.026	0.050
GLACIER controls	922	-0.096	0.077	0.21
GODARTS_diabetics	2657	-0.015	0.049	0.77
GODARTS_non diabetics	2061	-0.064	0.055	0.24
GRAPHIC	1899	-0.11	0.061	0.081
HELICMANOLIS	961	-0.063	0.087	0.47
HUNT	4735	-0.027	0.033	0.40
LBC1921	359	-0.25	0.14	0.070
LBC1936	783	0.094	0.084	0.27
LIFELINES	1948	-0.0095	0.054	0.86
MDC	8314	-0.0026	0.027	0.92
NFBC1986	1886	-0.040	0.074	0.59
OB	4440	-0.058	0.038	0.13
PIVUS/ULSAM	1998	-0.019	0.056	0.74
TwinsUK	1014	-0.089	0.077	0.25
UKHLS	7240	-0.074	0.030	0.013
ADDITION	2310	-0.049	0.049	0.32
DPS	416	-0.096	0.19	0.61
DR's EXTRA	739	-0.14	0.15	0.32
FIN-D2D 2007	2570	-0.035	0.064	0.59
FINRISK 2007	1088	-0.010	0.11	0.92
FUSION	4237	0.036	0.052	0.49
Health 2006/2008	3709	-0.065	0.039	0.098
Inter99	6080	-0.098	0.031	0.0014
METSIM	8389	-0.052	0.042	0.21
PPP	4766	-0.072	0.036	0.048
SDC	500	0.058	0.11	0.60
SDR/ANDIS	2636	-0.030	0.048	0.53
VejleCases	2000	0.026	0.052	0.62
VejleCtrl	430	0.14	0.12	0.25
CCHS	8070	-0.059	0.023	0.0091
CGPS	11784	-0.00061	0.019	0.98
CHDS	1436	0.020	0.059	0.74
EPIC-CVD	15676	-0.057	0.018	0.0015
EPIC-InterAct	1077	-0.034	0.077	0.66
MORGAM	5757	-0.016	0.037	0.67
PROSPER	1275	-0.017	0.070	0.81
WOSCOPS	1337	-0.0074	0.068	0.91
Summary	161880	-0.038	0.0062	6.711e-10



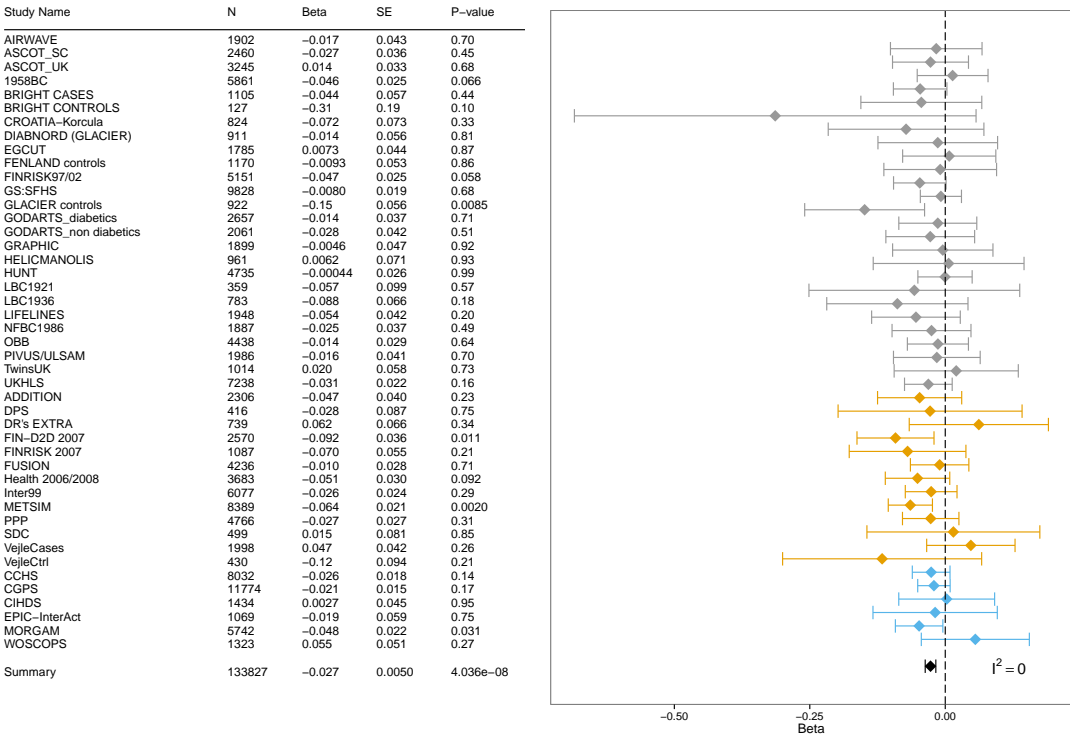
rs8068318 in *TBX2* association with DBP in EUR



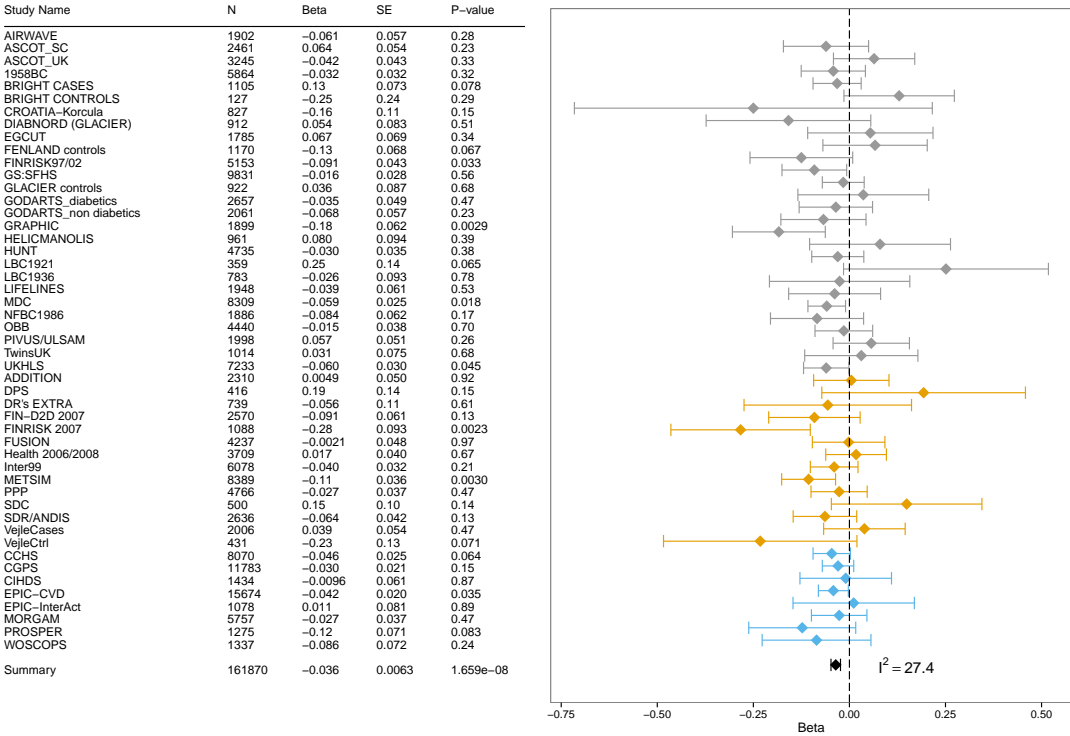
rs167479 in *RGL3* association with DBP in EUR

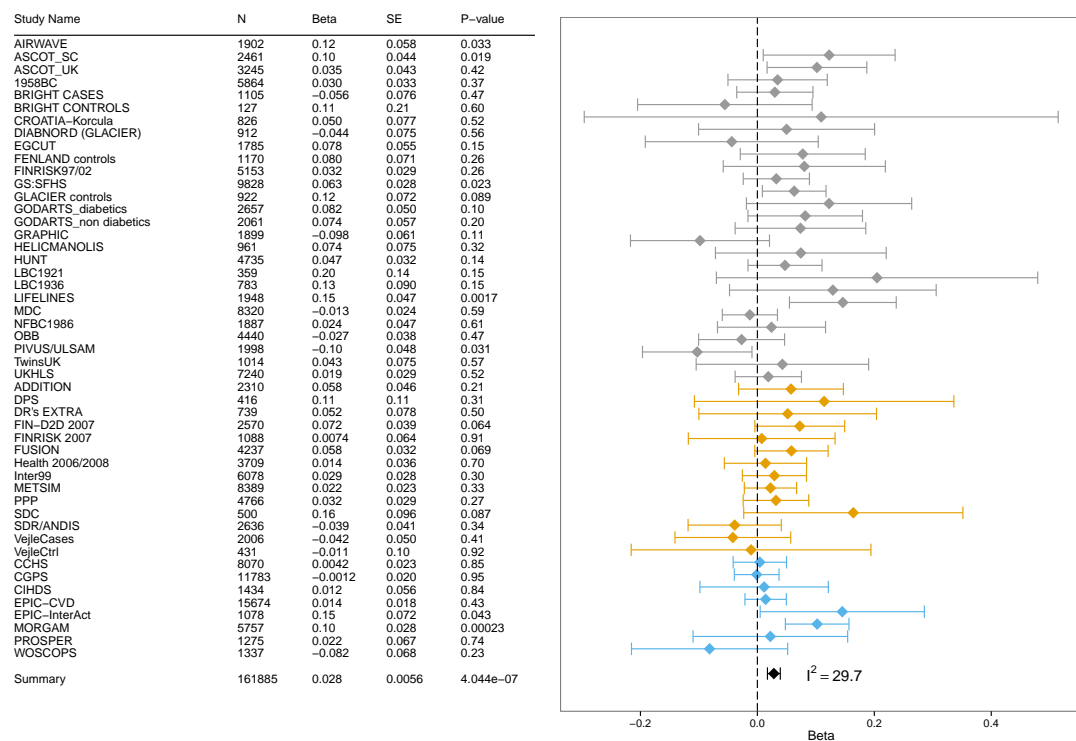
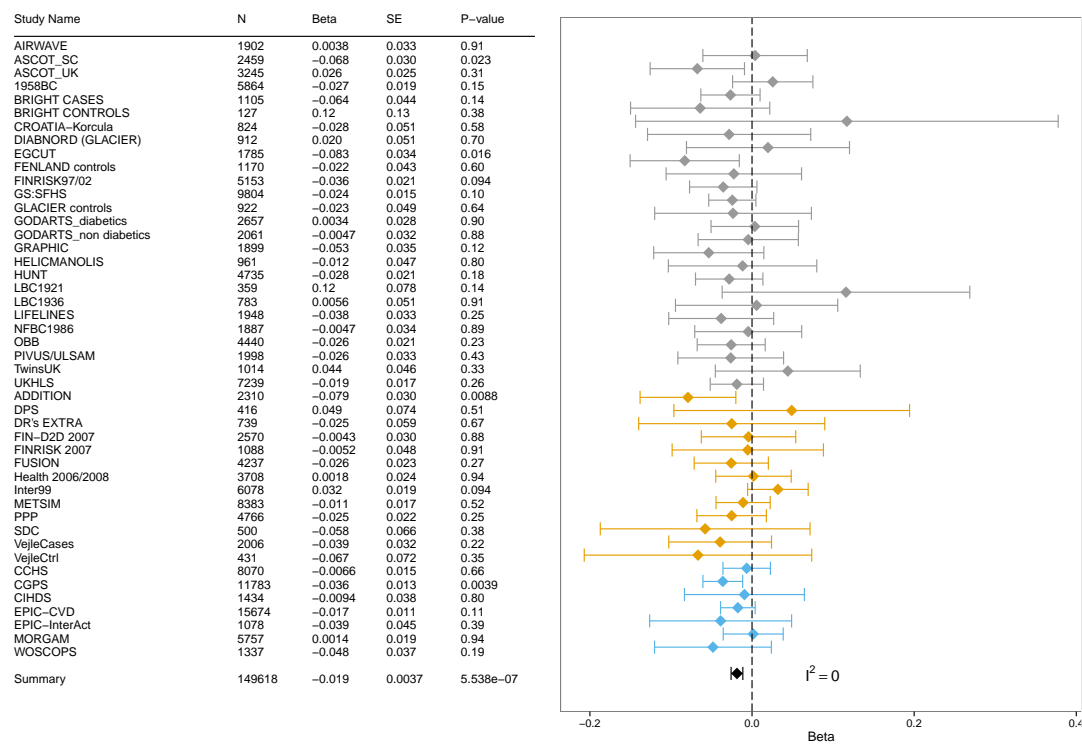
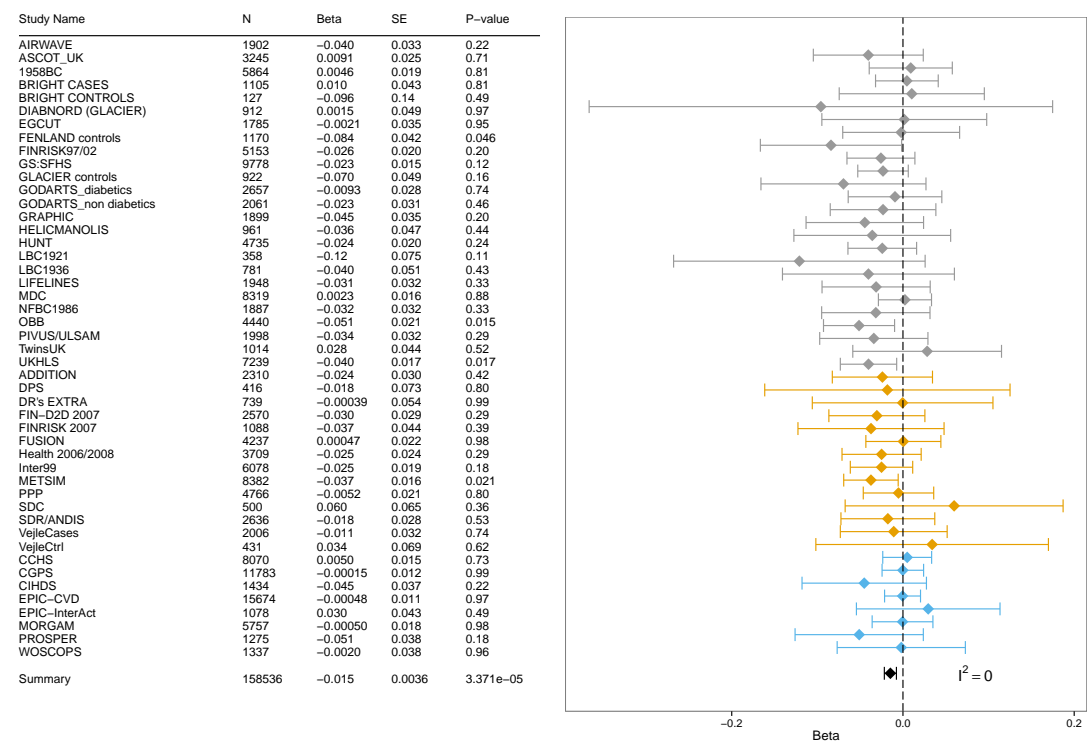
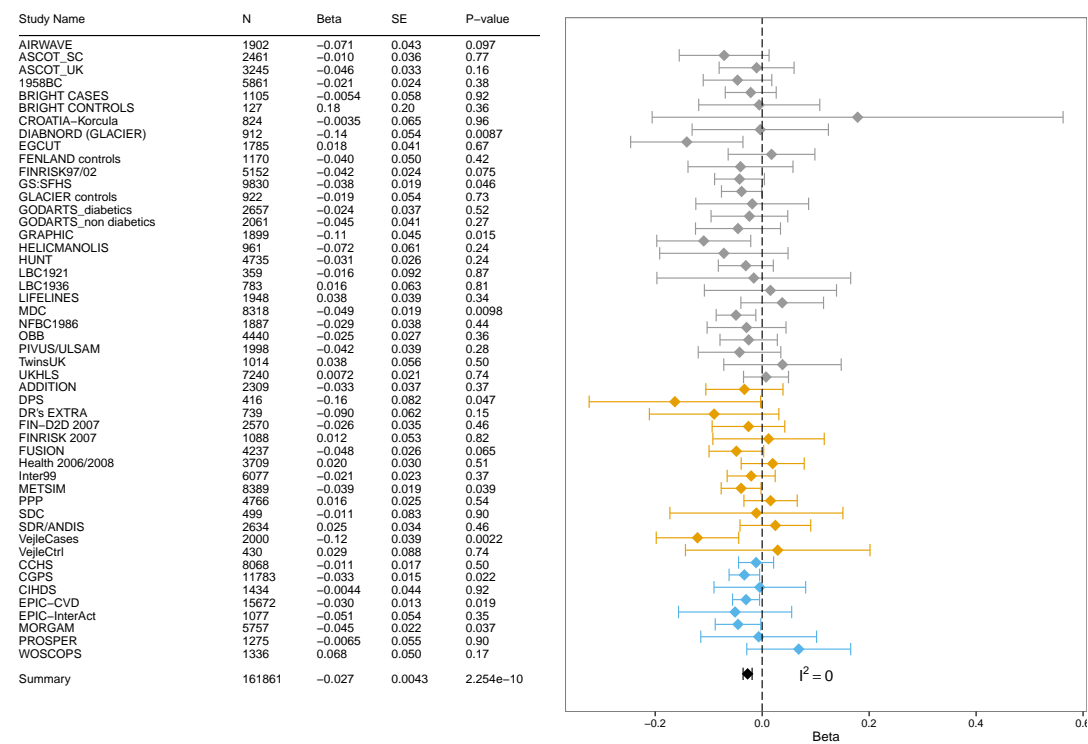


rs10407022 in *AMH* association with PP in EUR



rs2304130 in *ZNF101* association with DBP in EUR

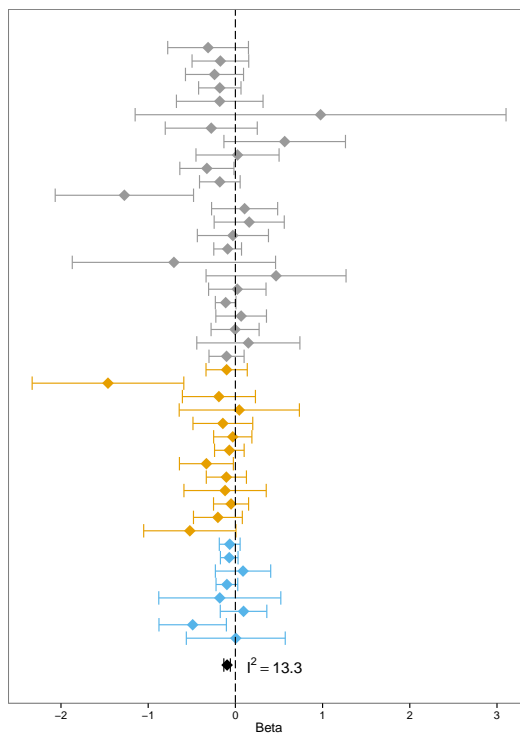


rs867186 in *PROCR* association with DBP in EURrs9306160 in *RRP1B* association with DBP in EURrs6095241 in *PREX1* association with DBP in EURrs4701113 in *TNRC6B* association with PP in EUR

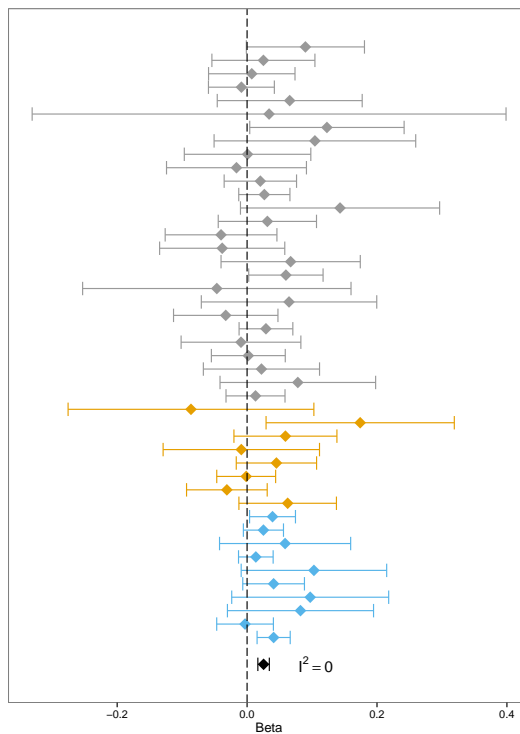


rs35529250 in *RBM47* association with SBP in ALL

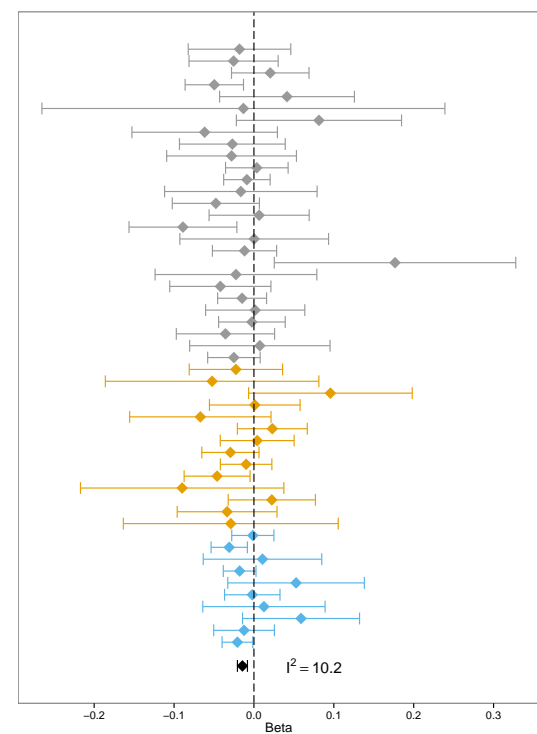
Study Name	N	Beta	SE	P-value
AIRWAVE	1902	-0.31	0.24	0.19
ASCOT_SC	2461	-0.17	0.17	0.30
ASCOT_UK	3245	-0.24	0.17	0.16
1958BC	5864	-0.18	0.12	0.15
BRIGHT CASES	1105	-0.18	0.25	0.48
BRIGHT CONTROLS	127	0.98	1.1	0.37
DIABNORD (GLACIER)	912	-0.28	0.27	0.30
EGCUT	1785	0.57	0.36	0.11
FENLAND controls	1170	0.025	0.24	0.92
FINRISK97/02	5152	-0.33	0.16	0.039
GS-SFHS	9832	-0.18	0.12	0.13
GLACIER controls	922	-1.3	0.40	0.0017
GODARTS_diabetics	2657	0.11	0.19	0.58
GODARTS_non diabetics	2061	0.16	0.21	0.44
GRAPHIC	1899	-0.028	0.21	0.89
HUNT	4735	-0.089	0.081	0.28
LBC1921	359	-0.70	0.59	0.24
LBC1936	783	0.47	0.41	0.26
LIFELINES	1948	0.022	0.17	0.90
MDC	8319	-0.11	0.060	0.065
OBB	4440	0.066	0.15	0.65
PIVUS/ULSAM	1998	-0.0033	0.14	0.98
TwinsUK	1014	0.15	0.30	0.62
UKHLS	7240	-0.10	0.10	0.32
ADDITION	2310	-0.10	0.12	0.41
DPS	416	-1.5	0.44	0.0011
FIN-D2D 2007	2570	-0.19	0.21	0.38
FINRISK 2007	1088	0.045	0.35	0.90
FUSION	4237	-0.14	0.17	0.41
Health 2006/2008	3709	-0.030	0.11	0.79
Inter99	6080	-0.069	0.087	0.42
METSIM	8389	-0.33	0.16	0.035
PPP	4766	-0.10	0.12	0.38
SDC	500	-0.12	0.24	0.62
SDR/ANDIS	2636	-0.050	0.10	0.63
VeijieCases	2000	-0.20	0.14	0.14
VeijieCtrl	430	-0.52	0.27	0.054
CCHS	8070	-0.065	0.061	0.29
CGPS	11784	-0.071	0.052	0.17
CIHDS	1436	0.088	0.16	0.59
EPIC-CVD	15676	-0.097	0.064	0.13
EPIC-InterAct	1077	-0.18	0.36	0.62
MORGAM	5757	0.094	0.14	0.49
PROSPER	1275	-0.49	0.20	0.013
WOSCOPS	1337	0.0045	0.29	0.99
Summary	157473	-0.095	0.019	6.556e-07

rs4387287 in *OBFC1* association with SBP in ALL

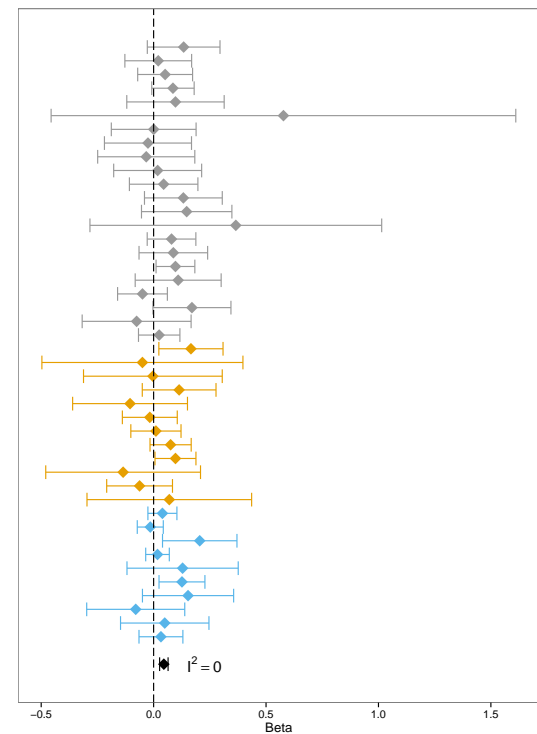
Study Name	N	Beta	SE	P-value
AIRWAVE	1902	0.090	0.046	0.053
ASCOT_SC	2461	0.025	0.040	0.53
ASCOT_UK	3245	0.0072	0.034	0.83
1958BC	5864	-0.0088	0.026	0.74
BRIGHT CASES	1105	0.066	0.057	0.25
BRIGHT CONTROLS	127	0.034	0.19	0.86
CROATIA-Korcula	824	0.12	0.061	0.043
DIABNORD (GLACIER)	912	0.10	0.079	0.19
EGCUT	1785	0.00073	0.050	0.99
FENLAND controls	1170	-0.016	0.055	0.77
FINRISK97/02	5152	-0.020	0.028	0.47
GS-SFHS	9817	0.027	0.020	0.19
GLACIER controls	922	0.14	0.078	0.068
GODARTS_diabetics	2657	0.031	0.039	0.42
GODARTS_non diabetics	2061	-0.040	0.044	0.36
GRAPHIC	1899	-0.038	0.049	0.44
HELICMANOLIS	961	0.067	0.055	0.22
HUNT	4735	0.060	0.029	0.041
LBC1921	359	-0.047	0.11	0.66
LBC1936	783	0.065	0.069	0.35
LIFELINES	1948	-0.033	0.041	0.42
MDC	8320	0.029	0.021	0.17
NFBC1986	1887	-0.0094	0.047	0.84
OBB	4440	0.0019	0.029	0.95
PIVUS/ULSAM	1998	0.022	0.046	0.63
TwinsUK	1014	0.078	0.061	0.20
UKHLS	7240	0.013	0.023	0.58
DPS	416	-0.086	0.097	0.37
DRs EXTRA	739	0.17	0.074	0.019
FIN-D2D 2007	2570	0.059	0.040	0.14
FINRISK 2007	1088	-0.0089	0.061	0.88
FUSION	4237	0.045	0.032	0.15
METSIM	8388	-0.0014	0.023	0.95
PPP	4766	-0.031	0.032	0.33
SDR/ANDIS	2636	0.062	0.038	0.10
CCHS	8070	0.039	0.018	0.030
CGPS	11784	0.025	0.016	0.11
CIHDS	1436	0.059	0.051	0.25
EPIC-CVD	15676	0.013	0.014	0.32
EPIC-InterAct	1077	0.10	0.057	0.072
MORGAM	5757	0.041	0.024	0.092
PROSPER	1275	0.097	0.062	0.10
WOSCOPS	1337	0.082	0.057	0.15
BRAVE	5250	-0.0031	0.022	0.89
PROMIS	20687	0.041	0.013	0.0016
Summary	172777	0.025	0.0045	2.23e-08

rs4728142 in *7q32.1* association with SBP in ALL

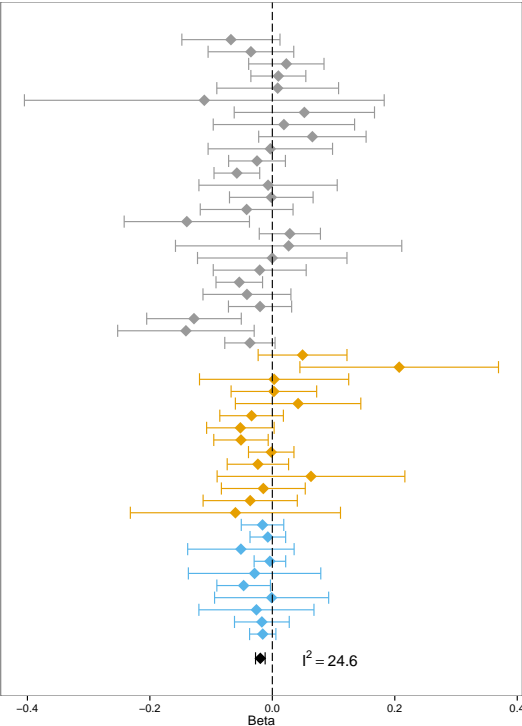
Study Name	N	Beta	SE	P-value
AIRWAVE	1902	-0.018	0.033	0.58
ASCOT_SC	2461	-0.025	0.028	0.37
ASCOT_UK	3245	0.020	0.025	0.41
1958BC	5864	-0.050	0.019	0.0078
BRIGHT CASES	1105	0.041	0.043	0.34
BRIGHT CONTROLS	127	-0.013	0.13	0.92
CROATIA-Korcula	822	0.081	0.053	0.12
DIABNORD (GLACIER)	912	-0.062	0.046	0.18
EGCUT	1785	-0.027	0.034	0.42
FENLAND controls	1170	-0.028	0.041	0.50
FINRISK97/02	5152	0.0036	0.020	0.86
GS-SFHS	9822	-0.0088	0.015	0.55
GLACIER controls	922	-0.016	0.049	0.74
GODARTS_diabetics	2657	-0.048	0.028	0.087
GODARTS_non diabetics	2061	0.0065	0.032	0.84
GRAPHIC	1899	-0.089	0.034	0.010
HELICMANOLIS	961	0.00032	0.047	0.99
HUNT	4735	-0.012	0.021	0.57
LBC1921	359	0.18	0.077	0.023
LBC1936	783	-0.023	0.052	0.66
LIFELINES	1948	-0.042	0.032	0.19
MDC	8319	-0.015	0.016	0.34
NFBC1986	1886	0.0016	0.032	0.96
OBB	4440	-0.0025	0.021	0.90
PIVUS/ULSAM	1998	-0.036	0.031	0.26
TwinsUK	1014	0.0074	0.045	0.87
UKHLS	7240	-0.095	0.017	0.13
ADDITION	2310	-0.023	0.030	0.45
DPS	416	-0.052	0.068	0.44
DRs EXTRA	739	0.096	0.052	0.087
FIN-D2D 2007	2570	0.0010	0.029	0.97
FINRISK 2007	1088	-0.067	0.045	0.14
FUSION	4237	0.023	0.022	0.30
Health 2006/2008	3709	0.0041	0.024	0.86
Inter99	6080	-0.029	0.018	0.11
METSIM	8388	-0.0098	0.016	0.55
PPP	4766	-0.046	0.021	0.029
SDC	500	-0.090	0.065	0.17
SDR/ANDIS	2636	0.022	0.028	0.42
VeijieCases	2000	-0.034	0.032	0.29
VeijieCtrl	430	-0.029	0.069	0.67
CCHS	8070	-0.0014	0.013	0.92
CGPS	11784	0.031	0.012	0.0077
CIHDS	1436	0.0011	0.038	0.78
EPIC-CVD	15676	-0.018	0.010	0.086
EPIC-InterAct	1077	0.053	0.044	0.23
MORGAM	5757	-0.0021	0.018	0.91
PROSPER	1275	0.013	0.039	0.75
WOSCOPS	1337	0.059	0.037	0.11
BRAVE	5250	-0.012	0.019	0.52
PROMIS	20687	-0.021	0.0098	0.034
Summary	187807	-0.014	0.0032	8.1e-06

rs1126930 in *PRKAG1* association with PP in ALL

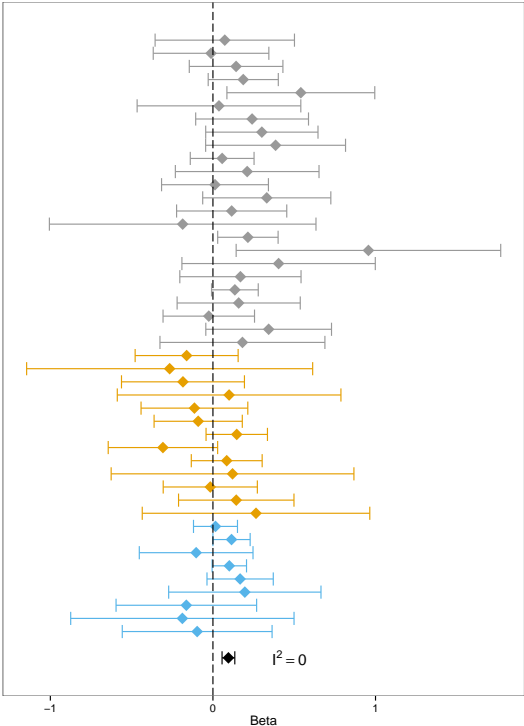
Study Name	N	Beta	SE	P-value
AIRWAVE	1902	0.13	0.082	0.11
ASCOT_SC	2457	0.021	0.076	0.79
ASCOT_UK	3245	0.034	0.061	0.41
1958BC	5861	0.086	0.048	0.074
BRIGHT CASES	1105	0.097	0.11	0.38
BRIGHT CONTROLS	127	0.58	0.53	0.28
DIABNORD (GLACIER)	912	0.00036	0.096	1.0
EGCUT	1785	-0.025	0.099	0.80
FENLAND controls	1170	-0.033	0.11	0.77
GLACIER controls	922	0.018	0.10	0.86
GODARTS_diabetics	2657	0.045	0.078	0.57
GODARTS_non diabetics	2061	0.13	0.088	0.13
GRAPHIC	1899	0.15	0.10	0.15
HELICMANOLIS	961	0.37	0.33	0.27
HUNT	4735	0.080	0.055	0.15
LIFELINES	1948	0.088	0.078	0.26
MDC	8296	0.097	0.044	0.027
NFBC1986	1886	0.11	0.098	0.26
OBB	4440	-0.050	0.056	0.38
PIVUS/ULSAM	1998	0.17	0.089	0.054
TwinsUK	1014	-0.076	0.12	0.54
UKHLS	7239	0.025	0.047	0.60
ADDITION	2309	0.17	0.073	0.023
DPS	416	-0.050	0.23	0.83
DRs EXTRA	739	-0.0033	0.16	0.98
FIN-D2D 2007	2570	0.11	0.084	0.17
FINRISK 2007	1088	-0.10	0.13	0.42
FUSION	4237	-0.017	0.062	0.79
Health 2006/2008	3709	0.010	0.057	0.86
Inter99	6077	0.076	0.047	0.11
METSIM	8388	0.097	0.046	0.036
SDC	499	-0.14	0.18	0.44
VeijieCases	2000	-0.062	0.075	0.40
VeijieCtrl	430	0.070	0.19	0.71
CCHS	8070	0.039	0.033	0.23
CGPS	11783	-0.015	0.030	0.61
CIHDS	1434	0.21	0.084	0.015
EPIC-CVD	15673	0.017	0.027	0.52
EPIC-InterAct	1077	0.13	0.13	0.31
MORGAM	5757	0.13	0.052	0.015
PROSPER	1275	0.15	0.10	0.14
WOSCOPS	1337	-0.080	0.11	0.47
BRAVE	5250	0.049	0.10	0.62
PROMIS	20674	0.033	0.050	0.51
Summary	163412	0.046	0.0096	2.115e-06



Study Name	N	Beta	SE	P-value
AIRWAVE	1902	-0.068	0.041	0.098
ASCOT_SC	2461	-0.035	0.036	0.33
ASCOT_UK	3245	0.023	0.031	0.47
1958BC	5864	0.0098	0.023	0.67
BRIGHT CASES	1105	0.0088	0.051	0.86
BRIGHT CONTROLS	127	-0.11	0.15	0.46
CROATIA-Korcula	822	0.052	0.058	0.37
DIABNORD (GLACIER)	912	0.019	0.059	0.75
EGCUT	1785	0.065	0.045	0.14
FENLAND controls	1170	-0.0033	0.052	0.95
FINRISK97/02	5153	-0.025	0.024	0.29
GS-SFHS	9768	-0.058	0.019	0.0024
GLACIER controls	922	-0.0070	0.058	0.90
GODARTS_diabetics	2657	-0.0017	0.035	0.96
GODARTS_non diabetics	2061	-0.042	0.039	0.28
HELICMANOLIS	961	-0.14	0.052	0.0075
HUNT	4735	0.029	0.025	0.26
LBC1921	359	0.027	0.094	0.78
LBC1936	783	-0.00016	0.062	1.0
LIFELINES	1948	-0.021	0.039	0.59
MDC	8320	-0.054	0.019	0.0054
NFBC1986	1887	-0.041	0.037	0.26
ORB	4440	-0.020	0.026	0.45
PIVUS/ULSAM	1998	-0.13	0.039	0.0012
TwinsUK	1014	-0.14	0.057	0.013
UKHLS	7240	-0.037	0.021	0.081
ADDITION	2310	0.049	0.037	0.18
DPS	416	0.21	0.083	0.013
DR's EXTRA	739	0.0029	0.062	0.96
FIN-D2D 2007	2570	0.0025	0.036	0.94
FINRISK 2007	1088	0.042	0.052	0.42
FUSION	4237	-0.034	0.026	0.20
Health 2006/2008	3709	-0.052	0.028	0.064
Inter99	6078	-0.051	0.023	0.024
METSIM	8386	-0.0018	0.019	0.92
PPP	4766	-0.024	0.026	0.36
SDC	500	0.063	0.078	0.42
SDR/ANDIS	2636	-0.015	0.035	0.67
VejleCases	2006	-0.036	0.039	0.36
VejleCtrl	431	-0.060	0.088	0.49
CCHS	8070	-0.016	0.018	0.37
CGPS	11783	-0.0074	0.015	0.62
CIHDS	1434	-0.051	0.044	0.25
EPIC-CVD	15674	-0.0039	0.013	0.76
EPIC-InterAct	1078	-0.029	0.055	0.60
MORGAM	5757	-0.047	0.022	0.036
PROSPER	1275	-0.0012	0.046	0.96
WOSCOPS	1337	-0.026	0.048	0.59
BRAVE	5250	-0.017	0.023	0.45
PROMIS	20677	-0.016	0.011	0.15
Summary	185846	-0.020	0.0040	6.664e-07



Study Name	N	Beta	SE	P-value
AIRWAVE	1902	0.073	0.22	0.74
ASCOT_SC	2461	-0.012	0.18	0.95
ASCOT_UK	3245	0.14	0.15	0.33
1958BC	5864	0.19	0.11	0.090
BRIGHT CASES	1105	0.54	0.23	0.020
CROATIA-Korcula	827	0.037	0.26	0.89
DIABNORD (GLACIER)	912	0.24	0.18	0.17
EGCUT	1785	0.30	0.18	0.088
FENLAND controls	1170	0.39	0.22	0.079
GS-SFHS	9822	0.057	0.10	0.57
GLACIER controls	922	0.21	0.23	0.35
GODARTS_diabetics	2657	0.013	0.17	0.94
GODARTS_non diabetics	2061	0.33	0.20	0.10
GRAPHIC	1899	0.12	0.17	0.50
HELICMANOLIS	961	-0.19	0.42	0.66
HUNT	4735	0.22	0.095	0.023
LBC1921	359	0.96	0.42	0.022
LBC1936	783	0.40	0.30	0.18
LIFELINES	1948	0.17	0.19	0.37
MDC	8303	0.14	0.073	0.066
NFBC1986	1887	0.16	0.19	0.41
ORB	4440	-0.026	0.14	0.86
PIVUS/ULSAM	1998	0.34	0.20	0.082
TwinsUK	1014	0.18	0.26	0.48
ADDITION	2310	-0.16	0.16	0.32
DR's EXTRA	739	-0.27	0.45	0.55
FIN-D2D 2007	2570	-0.18	0.19	0.34
FINRISK 2007	1088	0.10	0.35	0.78
FUSION	4237	-0.11	0.17	0.50
Health 2006/2008	3709	-0.091	0.14	0.51
Inter99	6080	0.15	0.096	0.13
METSIM	8388	-0.31	0.17	0.073
PPP	4766	0.085	0.11	0.45
SDC	500	0.12	0.38	0.75
SDR/ANDIS	2636	-0.016	0.15	0.91
VejleCases	2000	0.14	0.18	0.43
VejleCtrl	430	0.26	0.36	0.46
CCHS	8070	0.016	0.069	0.82
CGPS	11784	0.11	0.058	0.050
CIHDS	1436	-0.10	0.18	0.56
EPIC-CVD	15676	0.10	0.054	0.062
MORGAM	5757	0.17	0.10	0.11
PROSPER	1275	0.20	0.24	0.41
WOSCOPS	1337	-0.16	0.22	0.46
BRAVE	5250	-0.19	0.35	0.59
PROMIS	20687	-0.097	0.24	0.68
Summary	173785	0.095	0.020	1.963e-06

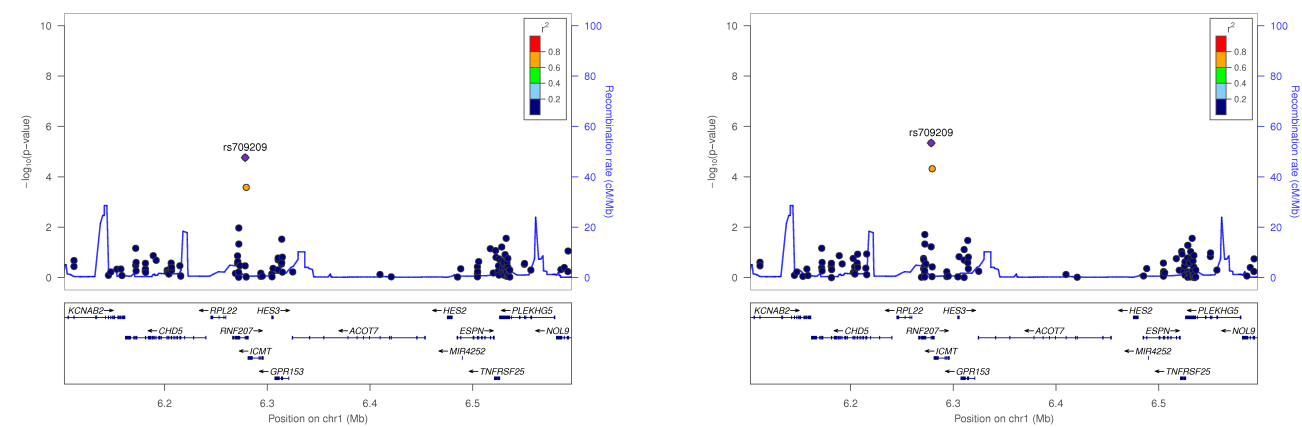


**Supplementary Figure 4. Locus zoom plots for 30 novel blood pressure variants.**

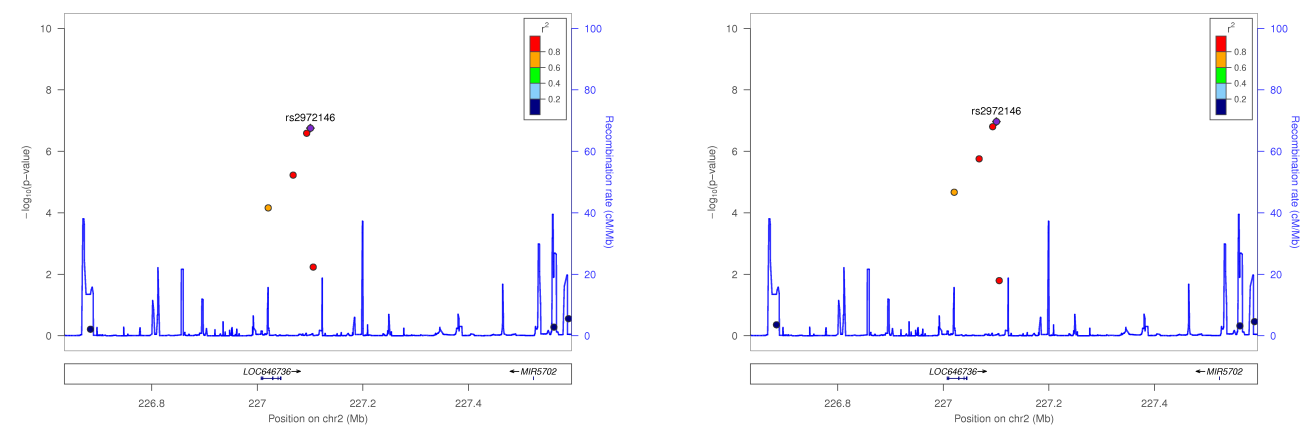
For each novel variant, the plot on the left indicates the discovery association results with the transformed validated trait (see table 1) in European (EUR) samples. The plot on the right is the association results with the transformed validated trait in EUR-South Asian (SAS) samples. LD was calculated for both EUR and EUR\_SAS using CHD Exome+ EUR dataset. Each circle represents a SNV passing quality control in the discovery meta-analysis plotted with its P value (on a  $-\log_{10}$  scale) on the y-axis and genomic position (NCBI Build 37) on the x-axis. The lead SNV (novel BP variant) is represented by the purple symbol. The color-coding of all other SNVs is indicated by linkage disequilibrium (LD) with the lead SNV.



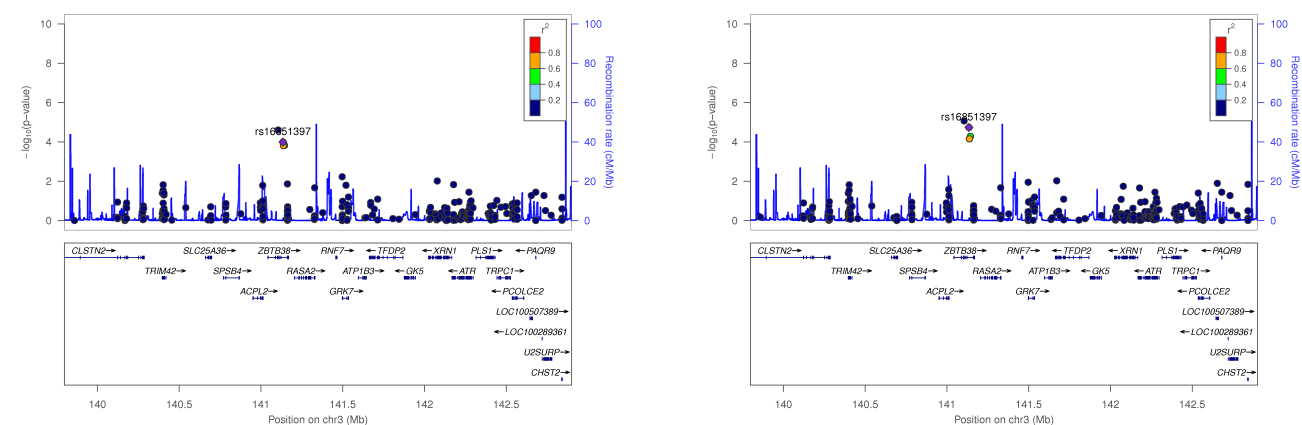
rs709209 (*RNF207*) association with PP



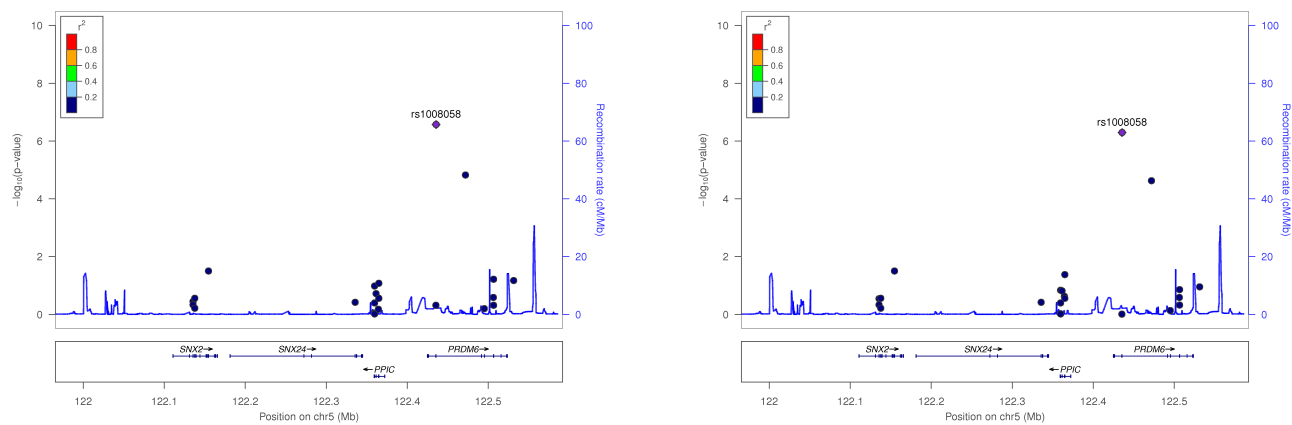
rs2972146 (2q36.3) association with DBP



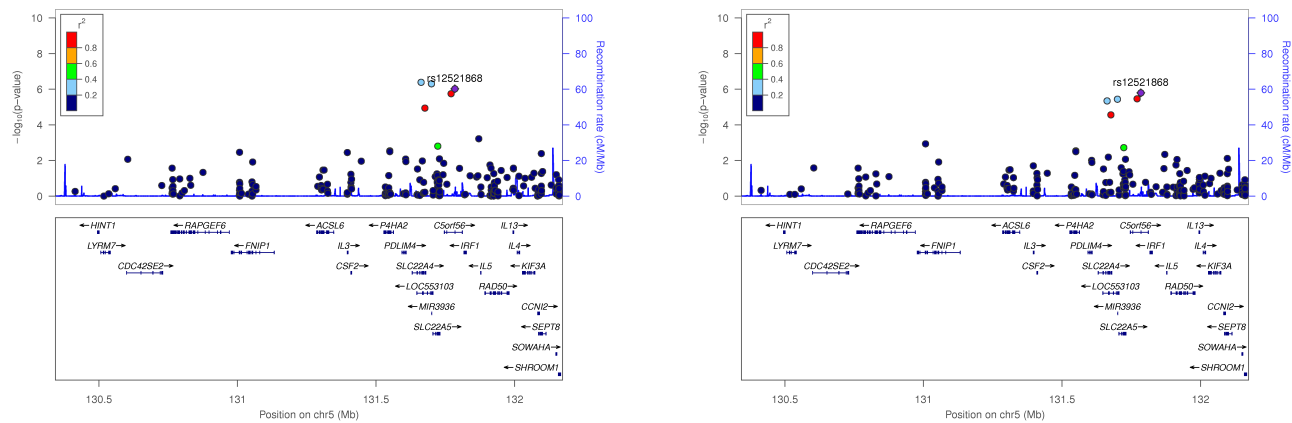
rs16851397 (*ZBTB38*) association with DBP



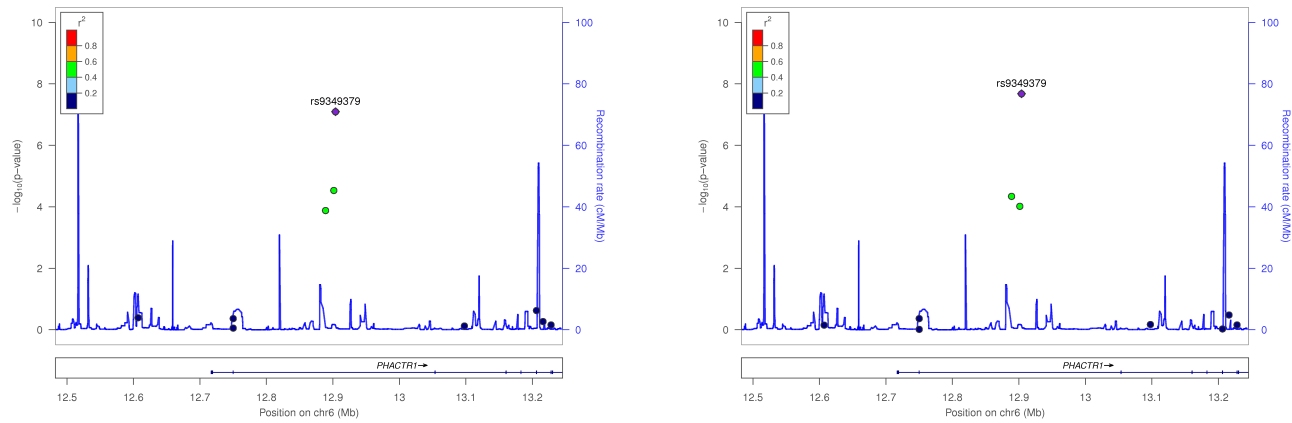
rs1008058 (*PRDM6*) association with SBP



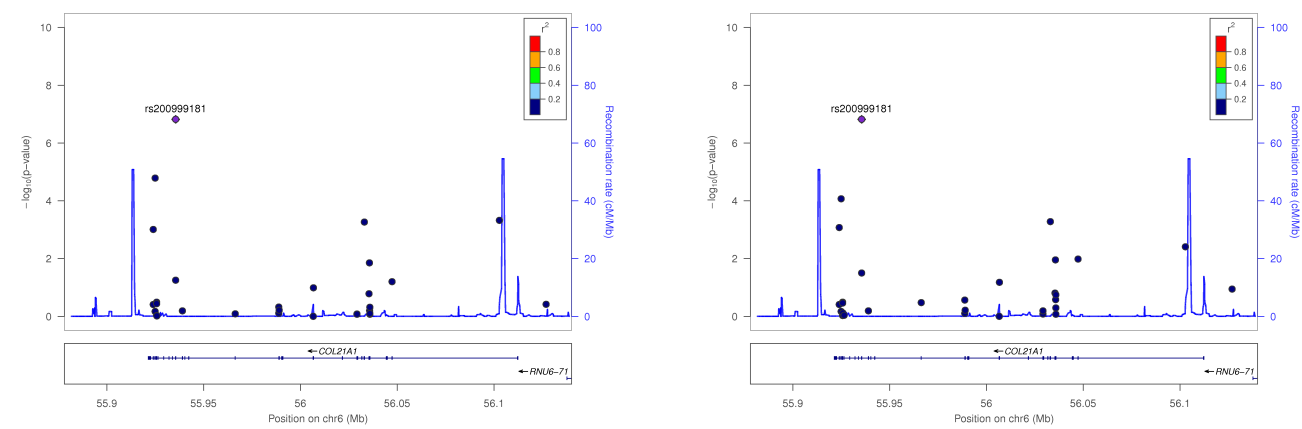
rs12521868 (*c5orf56*) association with DBP



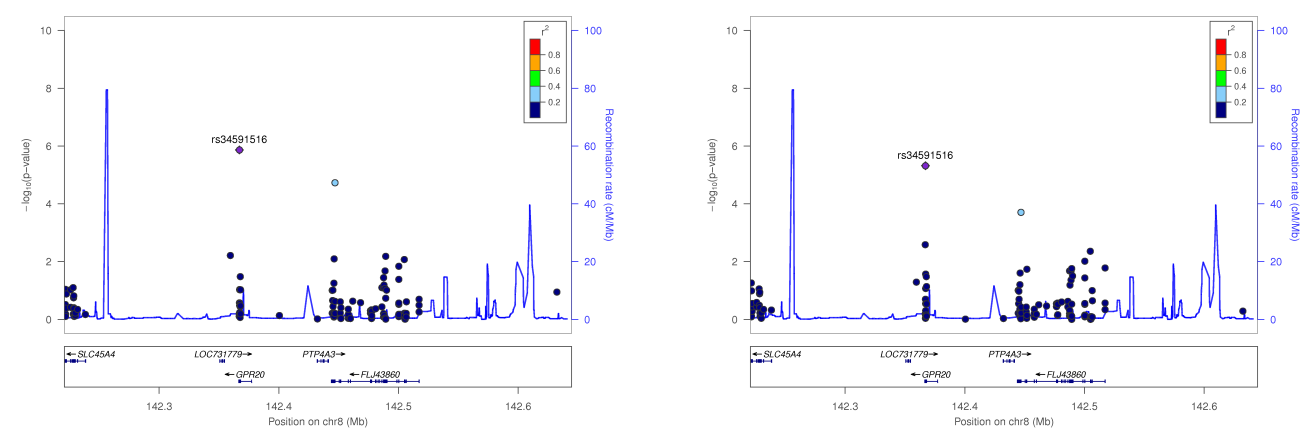
rs9349379 (*PHACTR1*) association with SBP



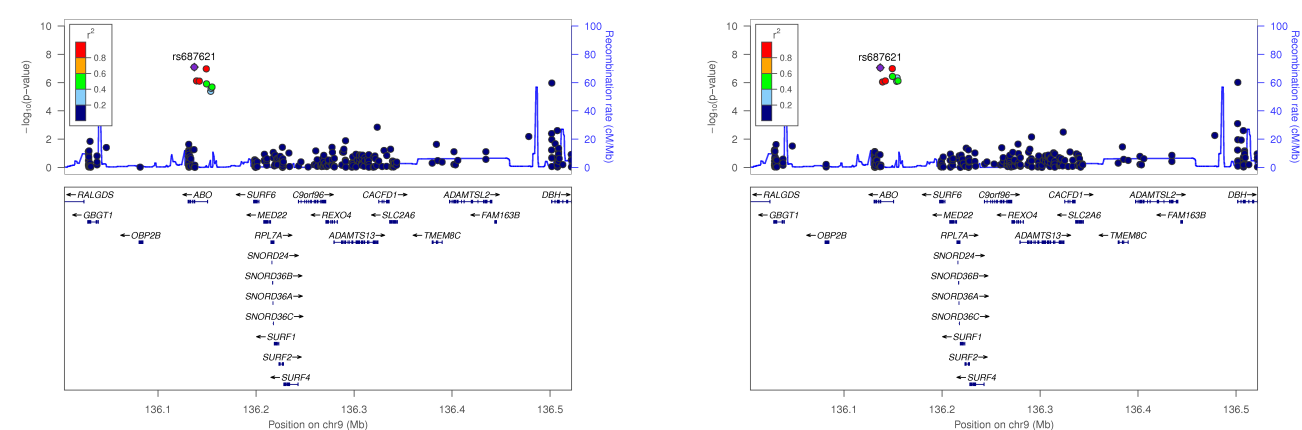
rs200999181 (*COL21A1*) association with PP



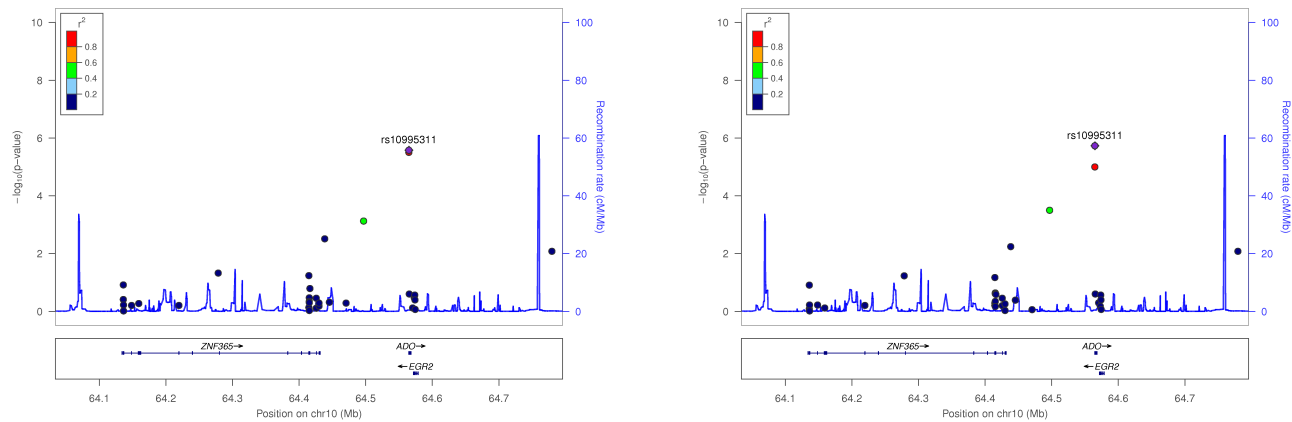
rs34591516 (*GPR20*) association with SBP



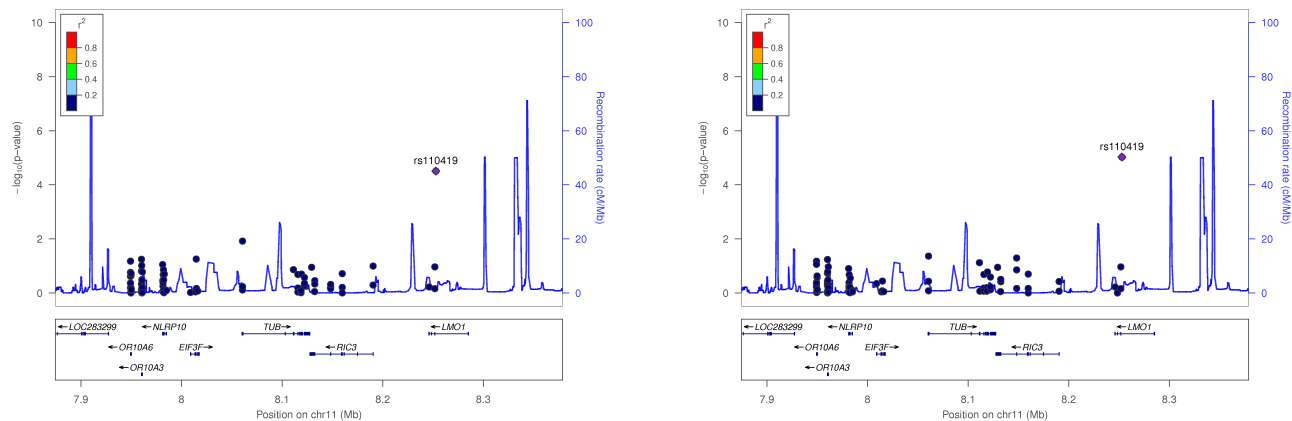
rs687621 (*ABO*) association with DBP



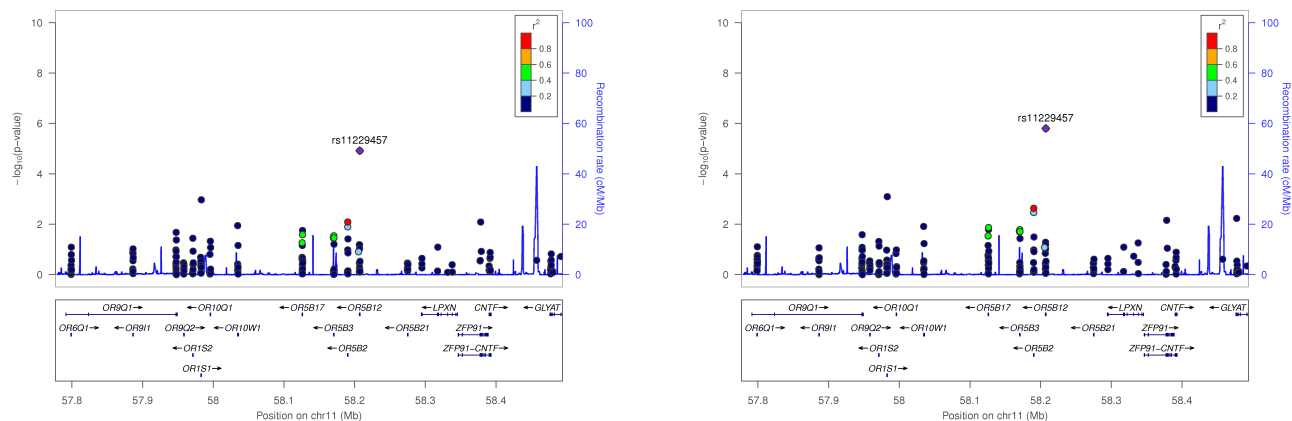
rs10995311 (*ADO*) association with DBP



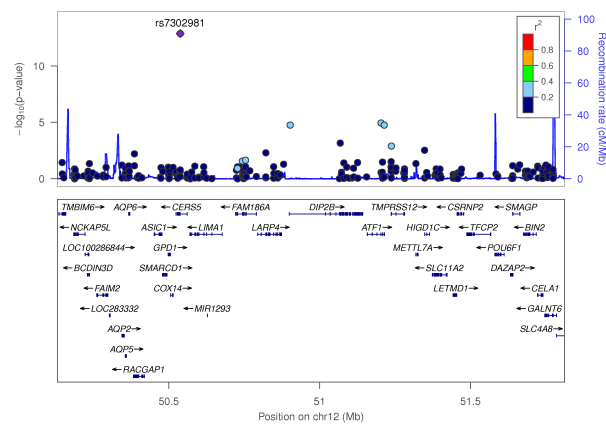
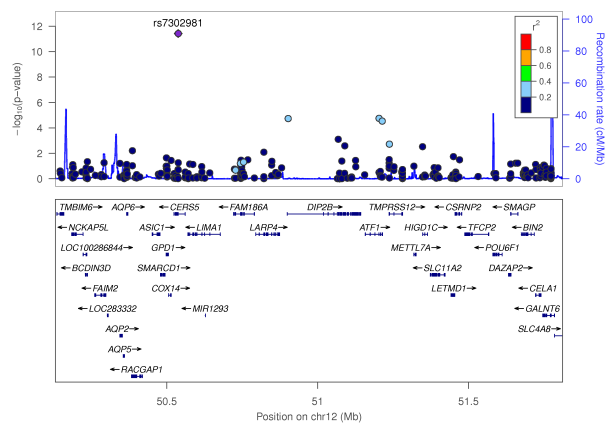
rs110419 (*LMO1*) association with DBP



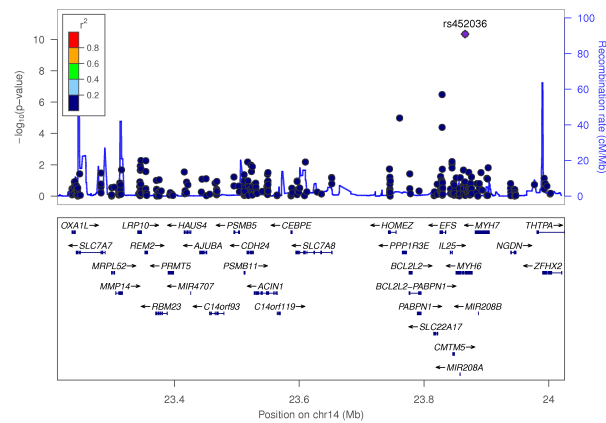
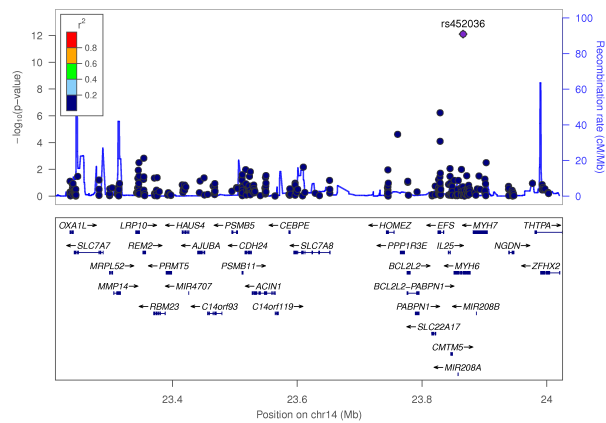
rs11229457 (*OR5B12*) association with SBP



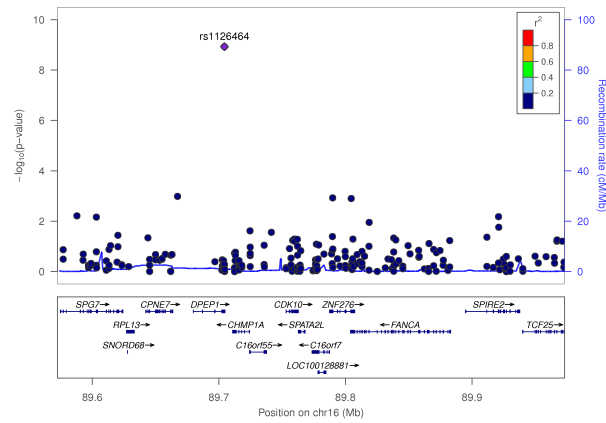
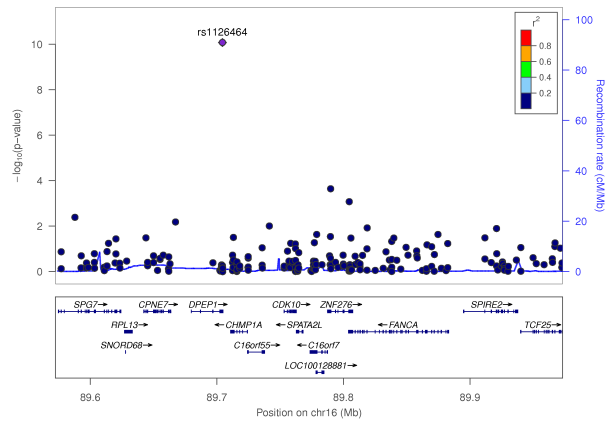
rs7302981 (*CERS5*) association with DBP



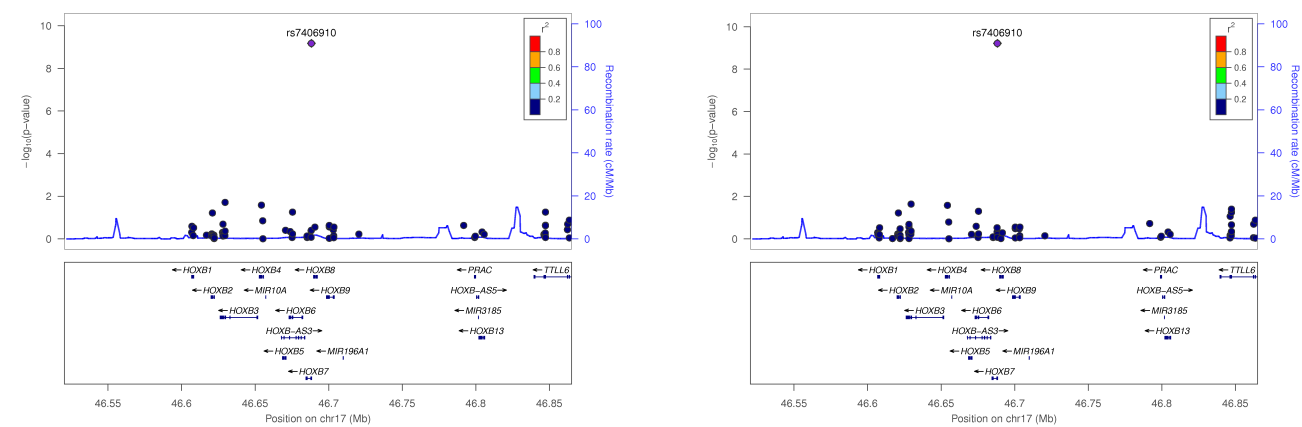
rs452036 (*MYH6*) association with PP



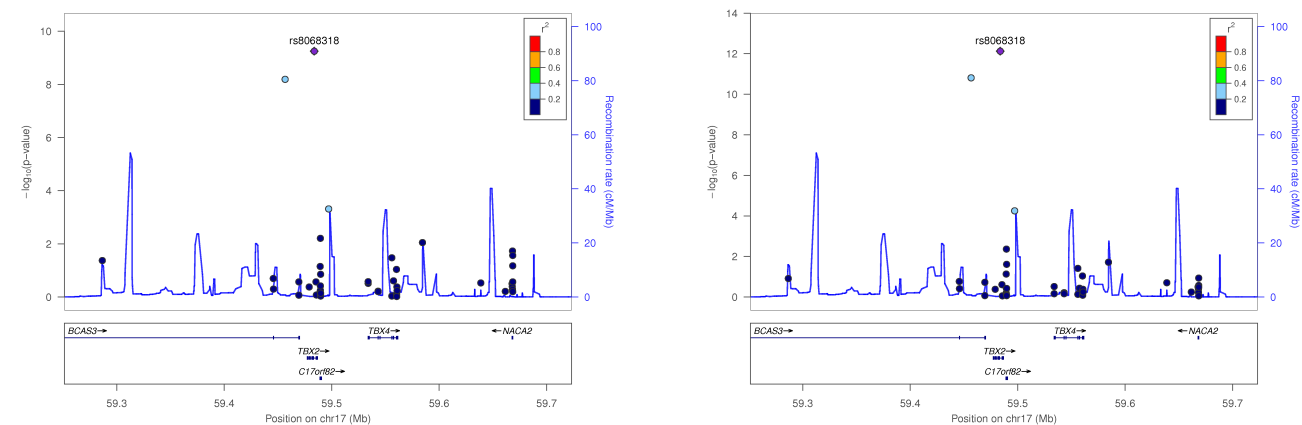
rs1126464 (*DPEP1*) association with DBP



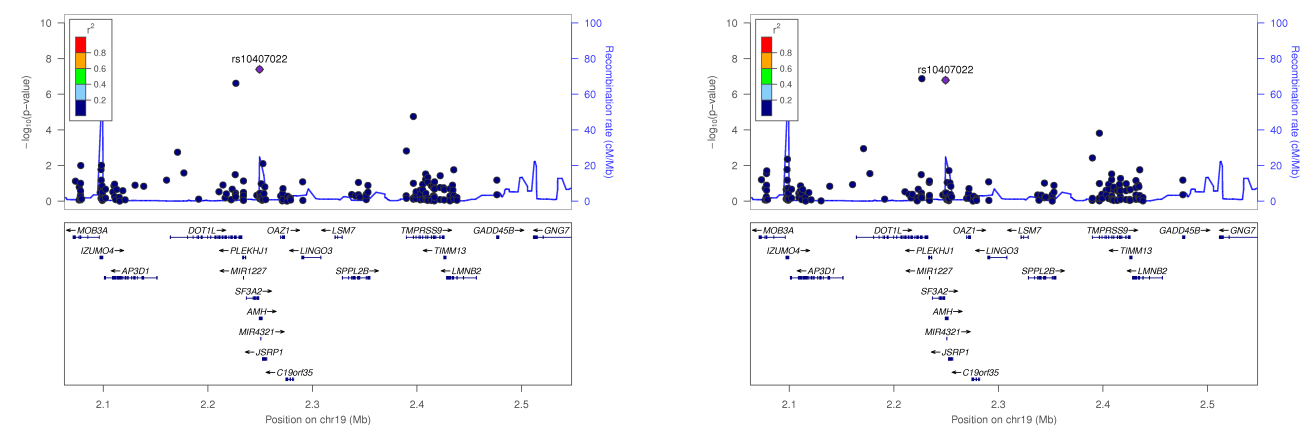
rs7406910 (*HOXB7*) association with SBP



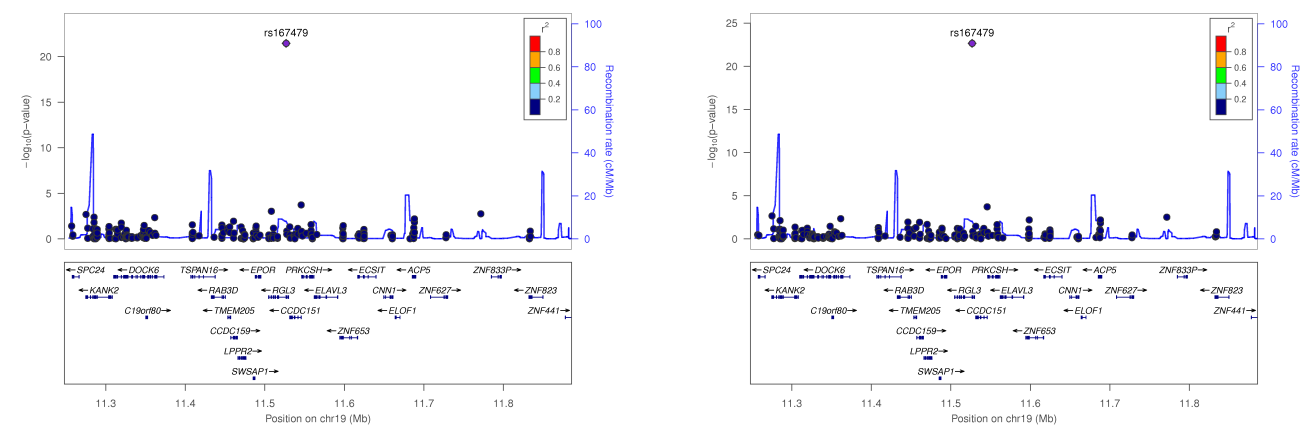
rs8068318 (*TBX2*) association with DBP



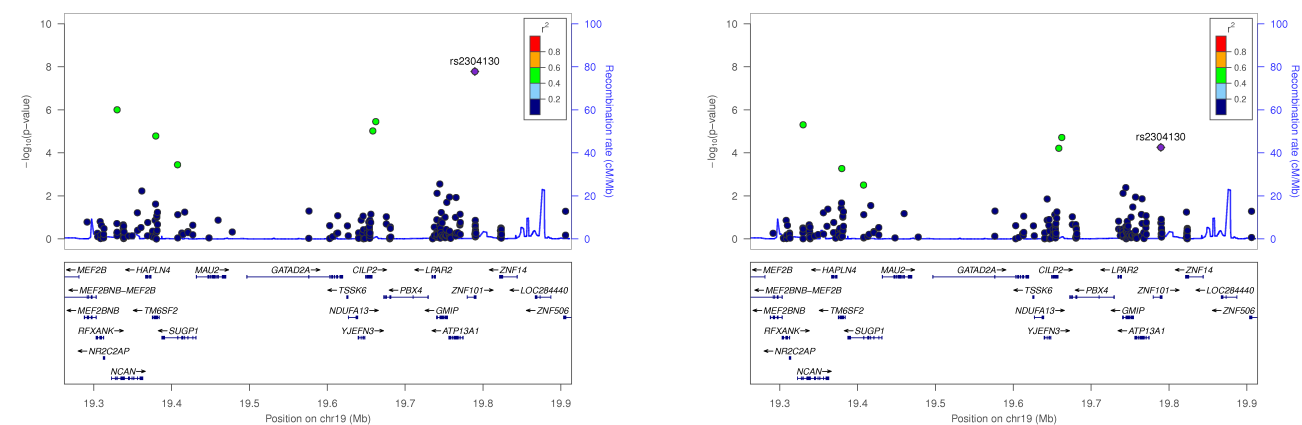
rs10407022 (*AMH*) association with PP



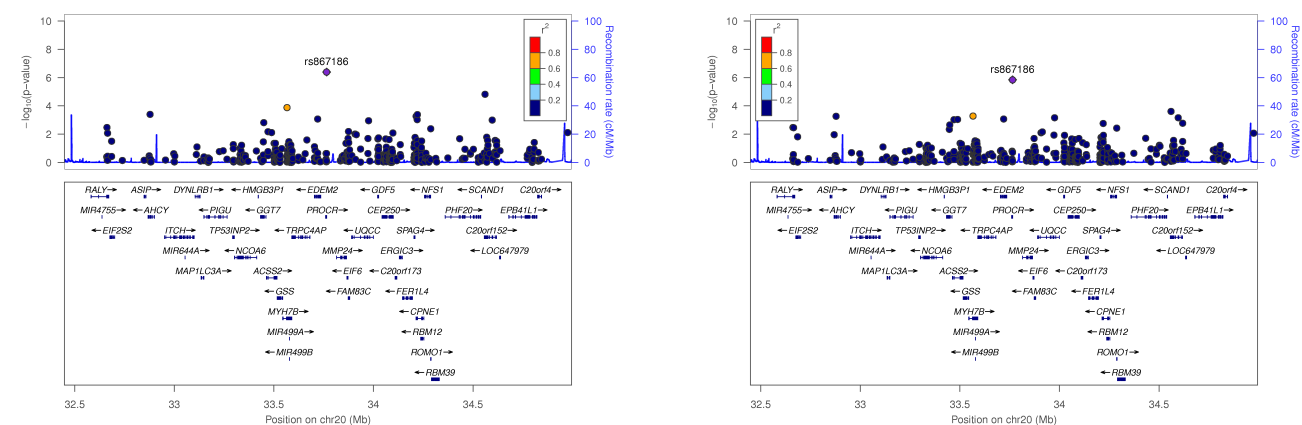
rs167479 (*RGL3*) association with DBP



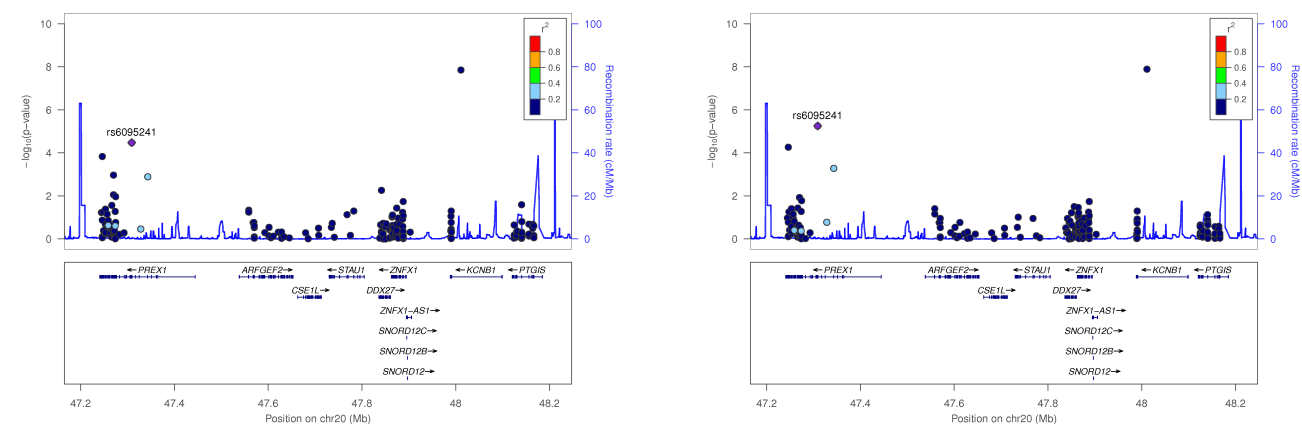
rs2304130 (*ZNF101*) association with DBP



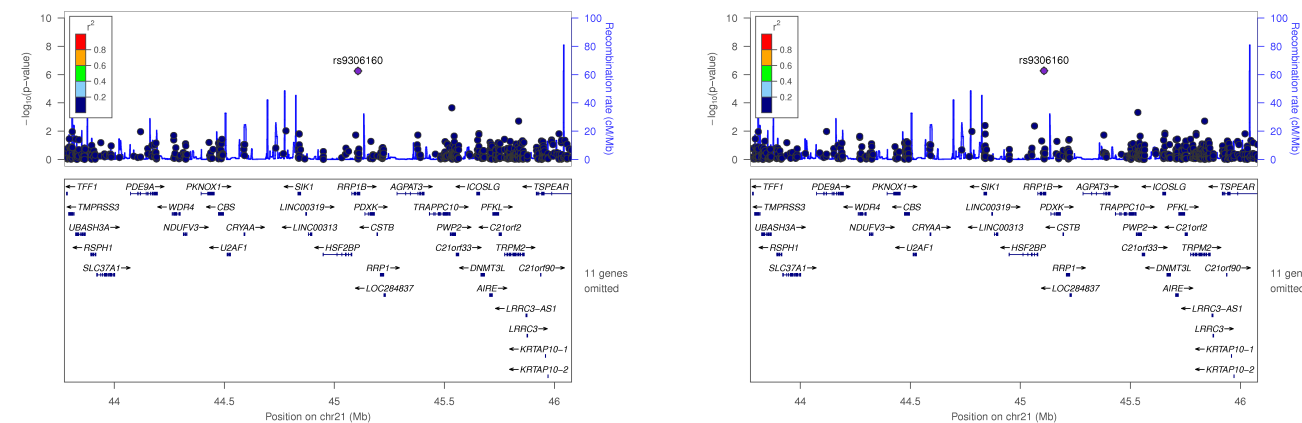
rs867186 (*PROCR*) association with DBP



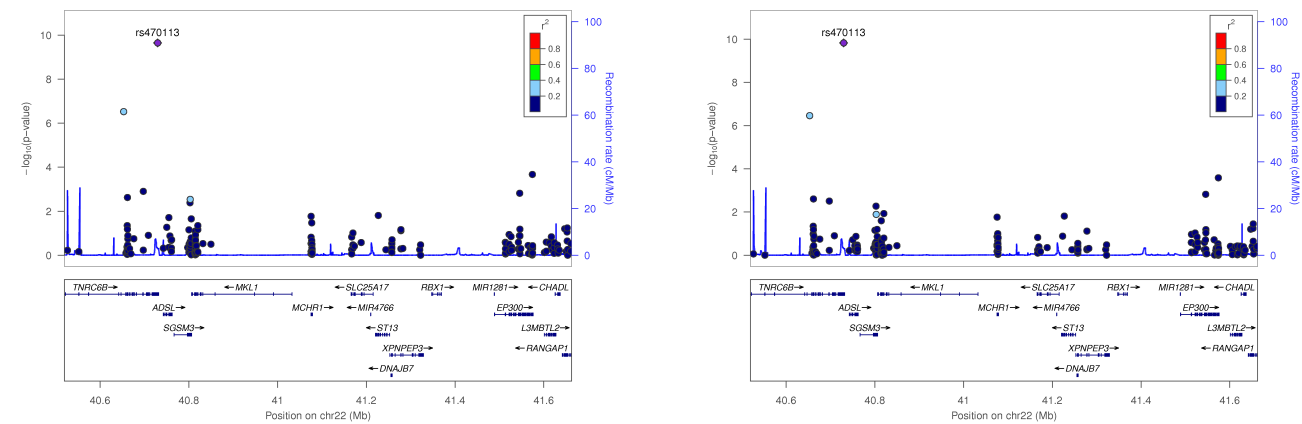
rs6095241 (*PREX1*) association with DBP



rs9306160 (*RRP1B*) association with DBP

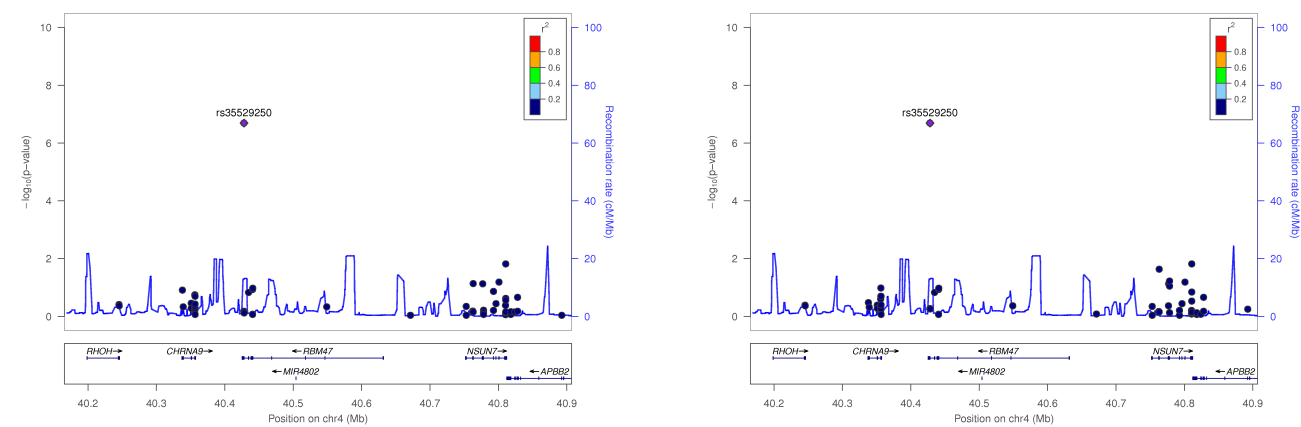


rs470113 (*TNRC6B*) association with PP

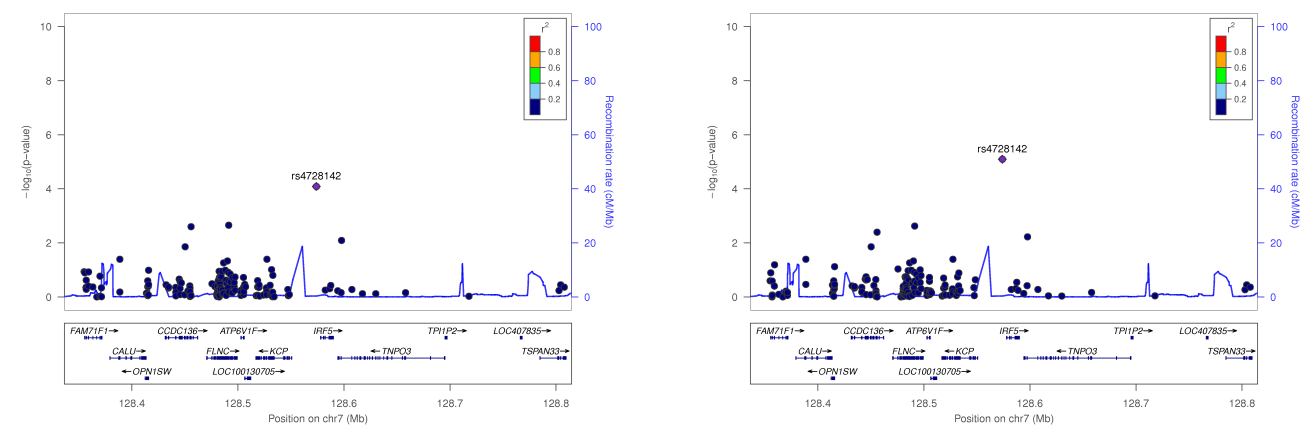




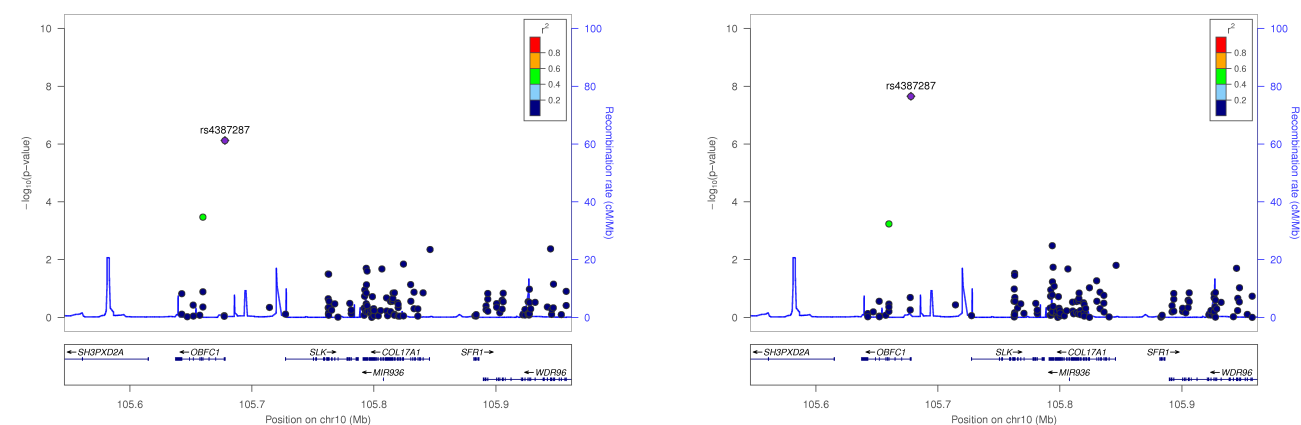
rs35529250 (*RBM47*) association with SBP



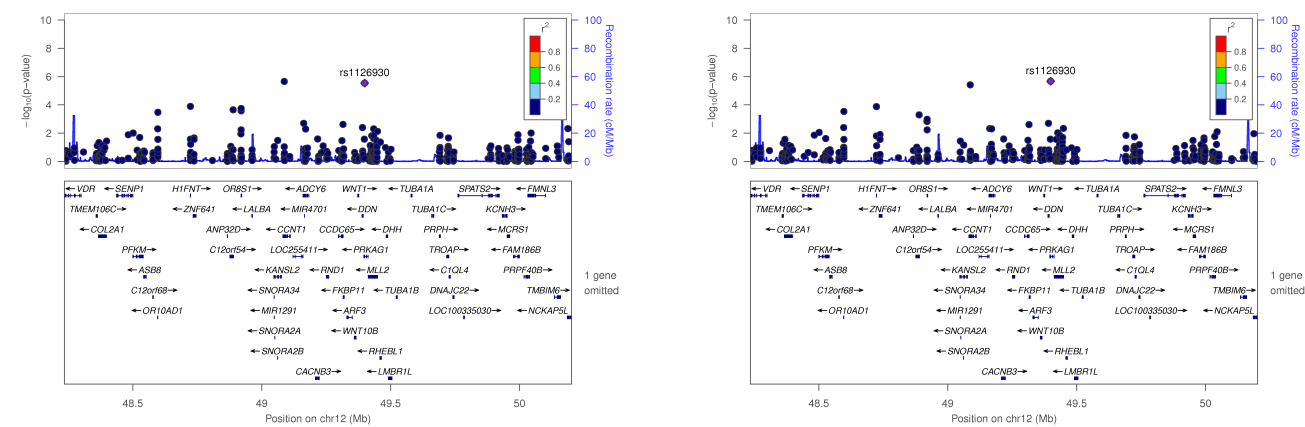
rs4728142 (7q32.1) association with SBP



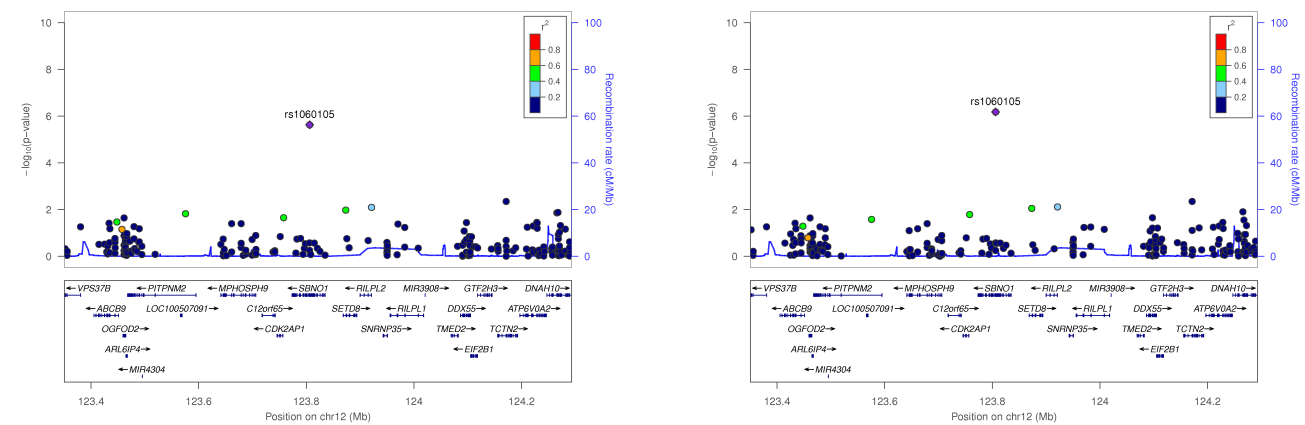
rs4387287 (*OBFC1*) association with SBP



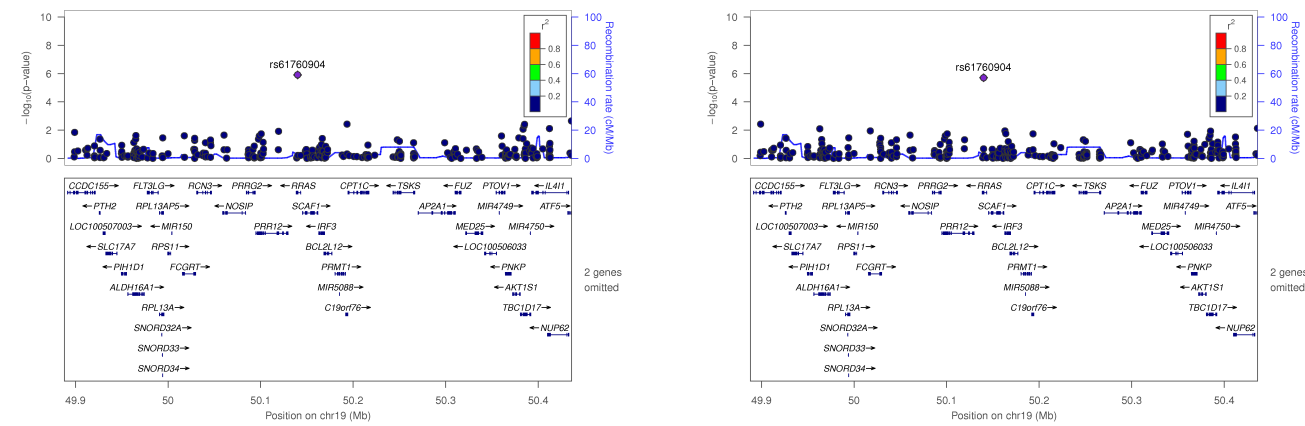
rs1126930 (*PRKAG1*) association with PP



rs1060105 (*SBNO1*) association with DBP



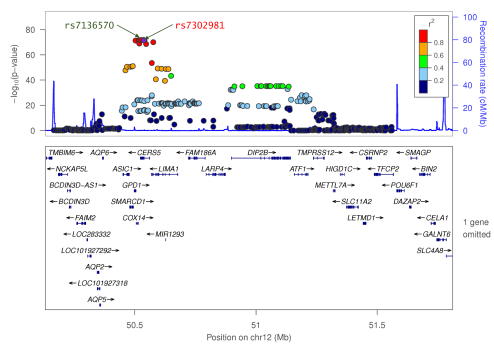
rs61760904 (*RRAS*) association with SBP



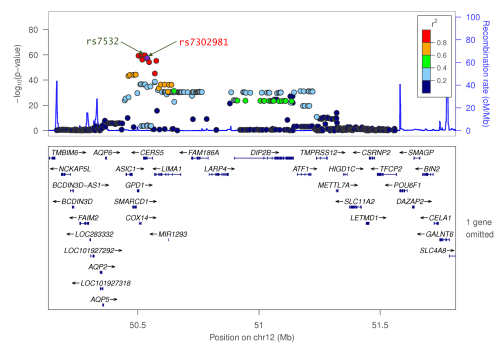
### **Supplementary Figure 5. eQTL locus zoom plots.**

Regional association plots for the four novel BP loci that showed significant eQTL associations. The title shows the novel blood pressure associated variant and locus name. The novel BP associated variant is labelled in red and the most significant eQTL is labelled in green. Each circle represents the association of an eQTL with gene expression in either the MuTHER or GTeX data-set. LD ( $r^2$ ) that is shown on the plots was calculated using EUR 1000 Genomes hg19 March 2012 release data and colour coding indicates the LD between each variant and the BP variant (RefVariant) shown in purple. The figure caption shows the eQTL database in which look up was performed and the tissue. P-value (on a  $-\log_{10}$  scale) for association of variants with gene expression is shown on the axis and genomic position (NCBI Build 37) is shown on the x-axis.

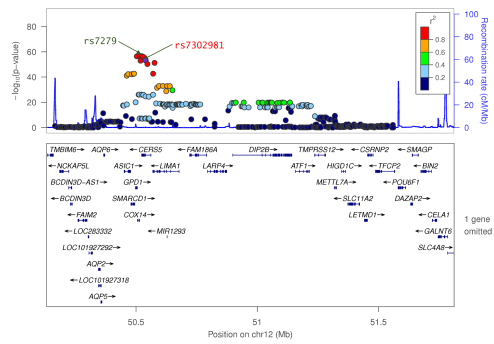
rs7302981 (*CERS5*)



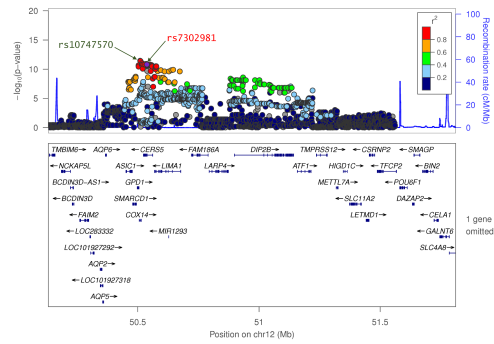
MuTHER - LCL



MuTHER - Skin

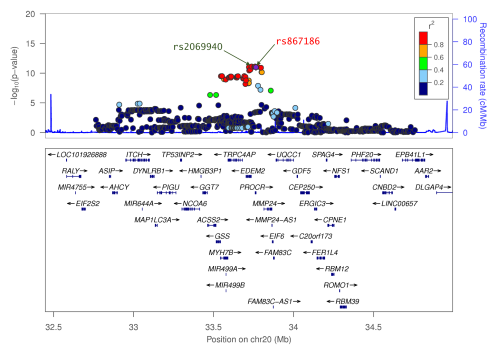


MuTHER - Adipose

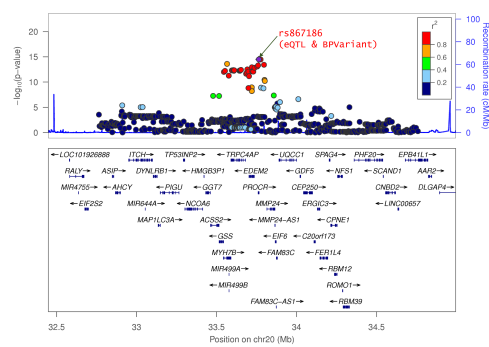


GTEx - Nerve (Tibial)

rs867186 (*PROCR*)

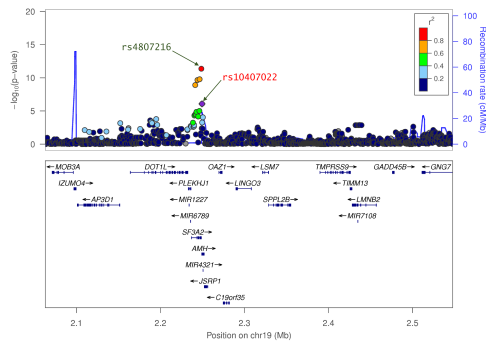


MuTHER - Skin

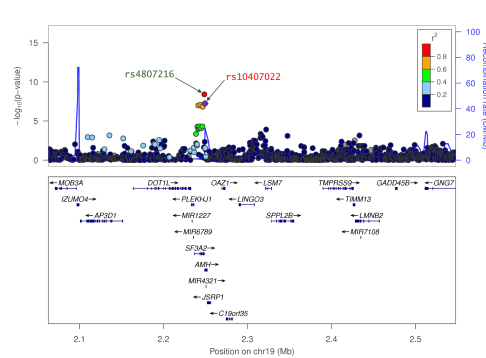


MuTHER - Adipose

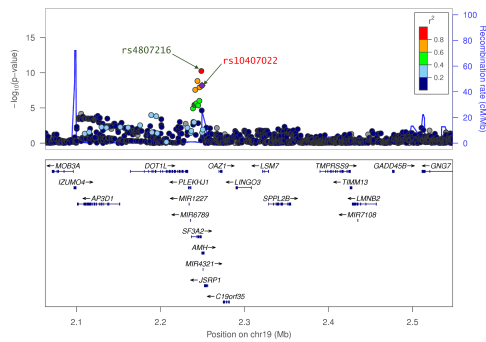
rs10407022 (*AMH*)



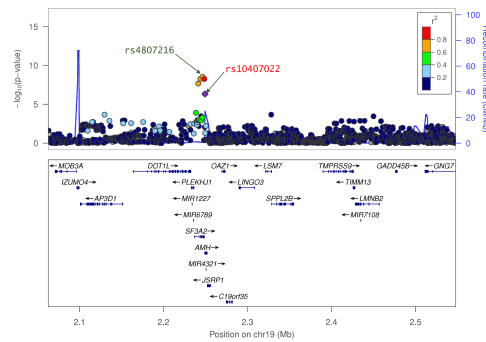
GTEX - Thyroid



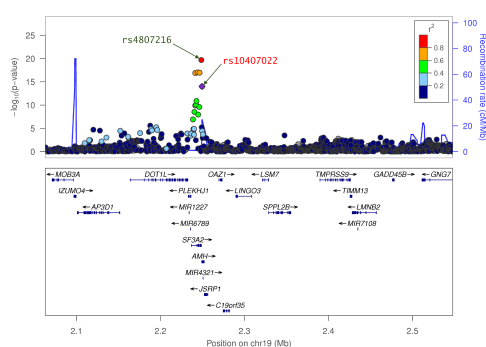
8: GTEX - Skin (Sun Exposed)



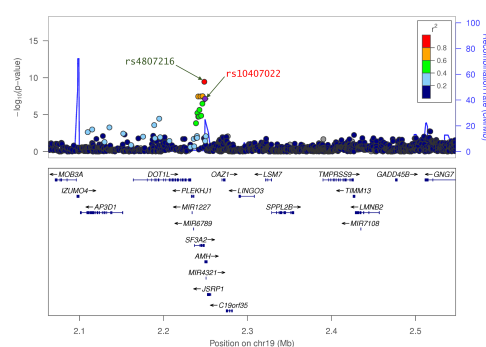
GTEX - Artery (Tibial)



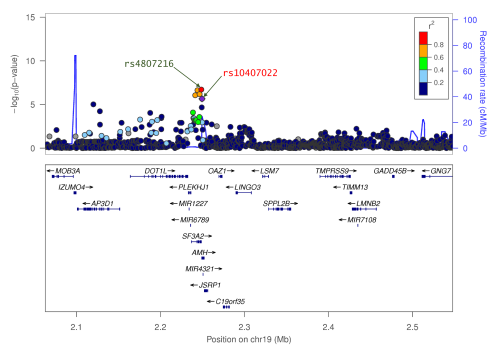
GTEX - Adipose (Subcutaneous)



GTEX - Muscle (Skeletal)

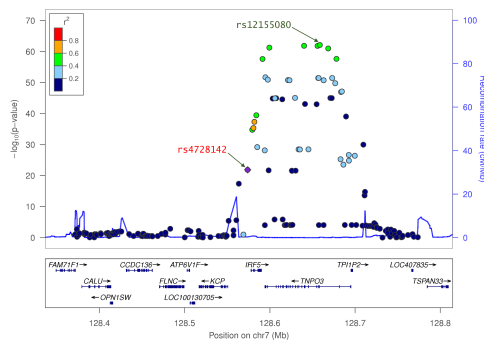


GTEX - Nerve (Tibial)

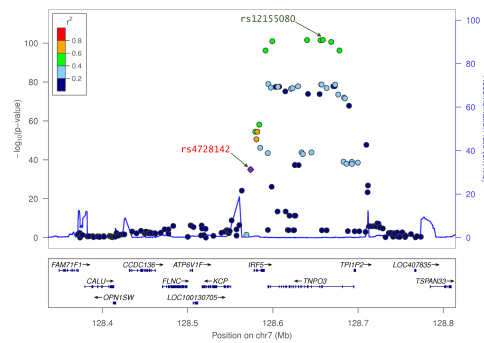


GTE<sub>x</sub> - Lung

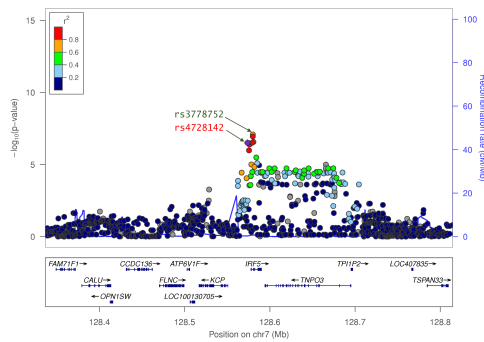
rs4728142 (*IRF5*)



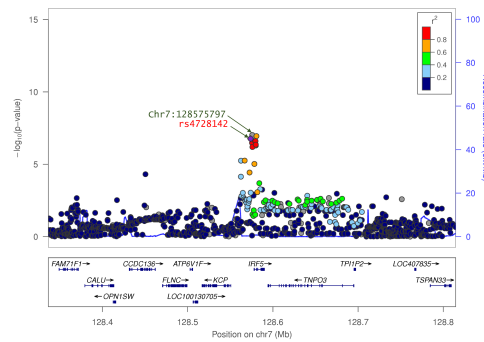
MuTHER - Skin



MuTHER - LCL



GTEx - Blood

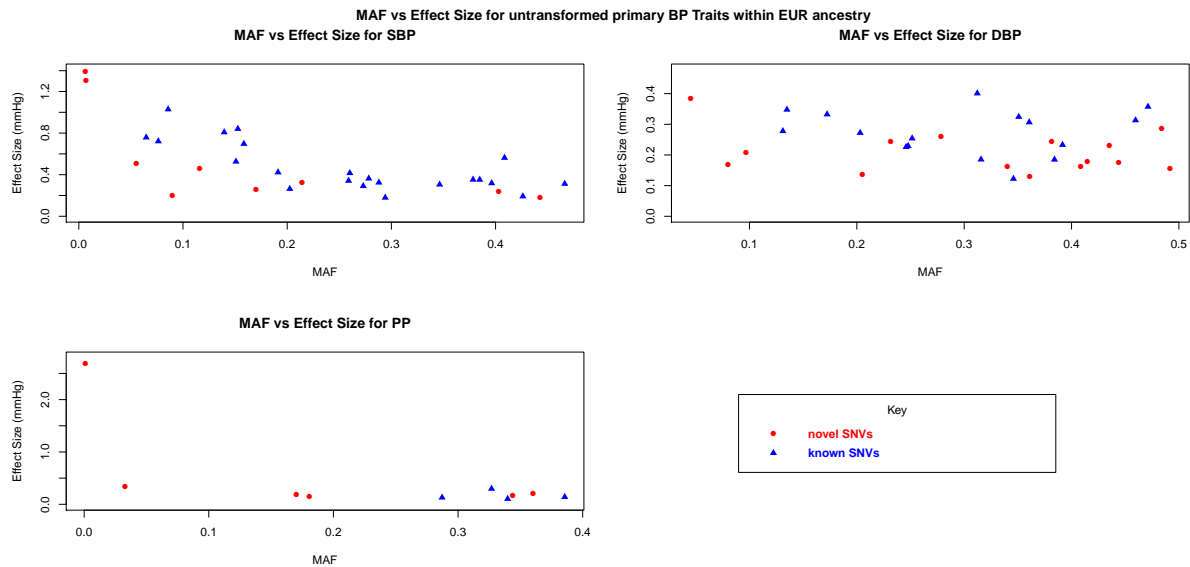


GTEx - Artery (Tibial)



**Supplementary Figure 6. MAF vs Effect Size.**

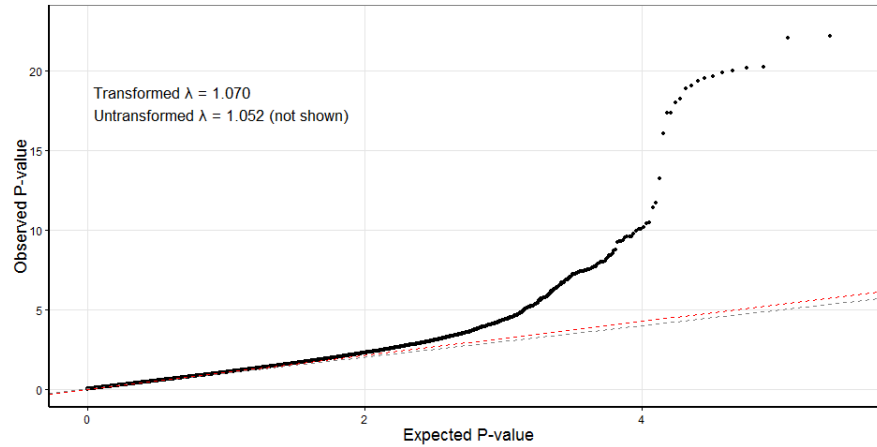
For each of the three quantitative traits SBP, DBP and PP, the relationship of Minor Allele Frequency (MAF) (x-axis) vs Effect Size (mmHg per unit allele) (y-axis) is plotted for the 43 known (blue triangles) and 30 novel (red circles) SNVs according to results from untransformed analyses within EUR ancestry. For known SNVs effect estimates are from the discovery analyses and for novel SNVs effect estimates are from the independent replication analyses.



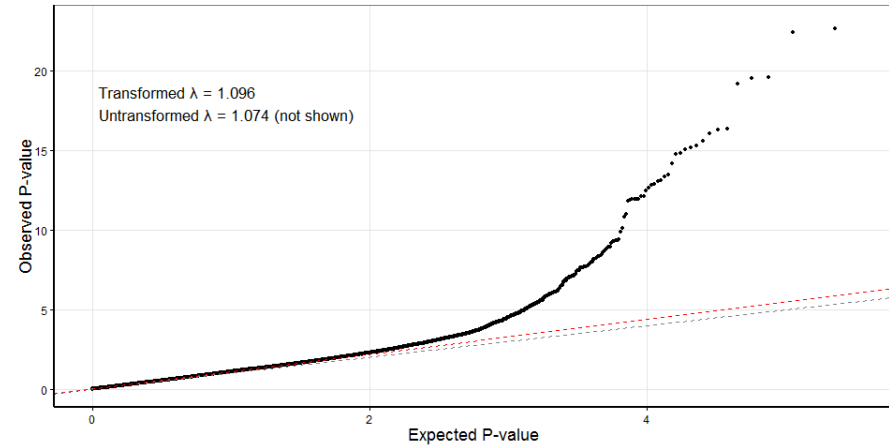
**Supplementary Figure 7. Quantile-quantile plots for the discovery meta-analyses of transformed SBP, DBP, PP and HTN.**

QQ plots showing the quantiles of the observed  $-\log_{10}(\text{P-value})$  distribution in the discovery meta-analyses (y-axis) against the expected  $-\log_{10}(\text{P-values})$  from the quantiles of the normal distribution. The black dashed line represents  $\lambda = 1$ , i.e. no inflation. The red dashed line indicates  $y = \lambda x$  and represents the inflation in the test statistics for the plotted data. For SBP, DBP and PP, the inflation factor,  $\lambda$ , is also reported for the untransformed results, which are not plotted.

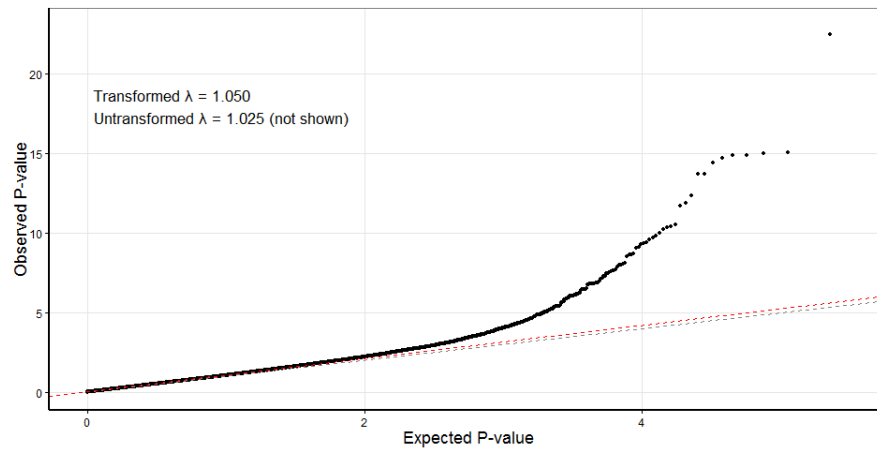
SBP (transformed) in EUR-SAS discovery



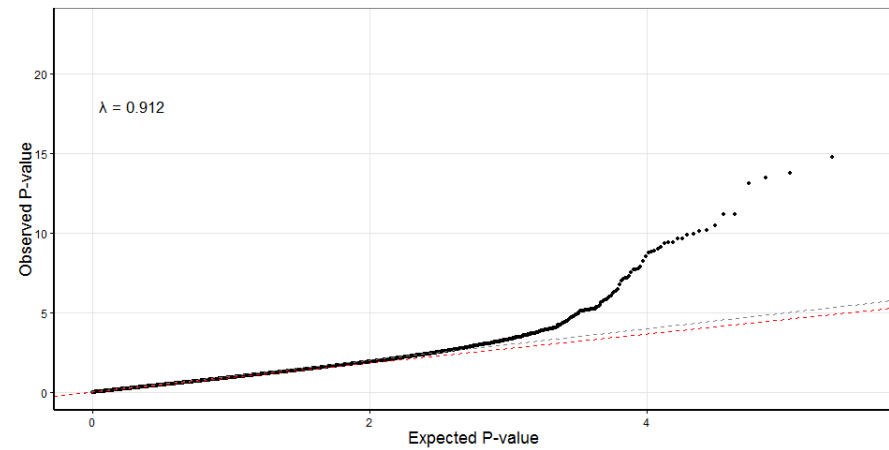
DBP (transformed) in EUR-SAS discovery



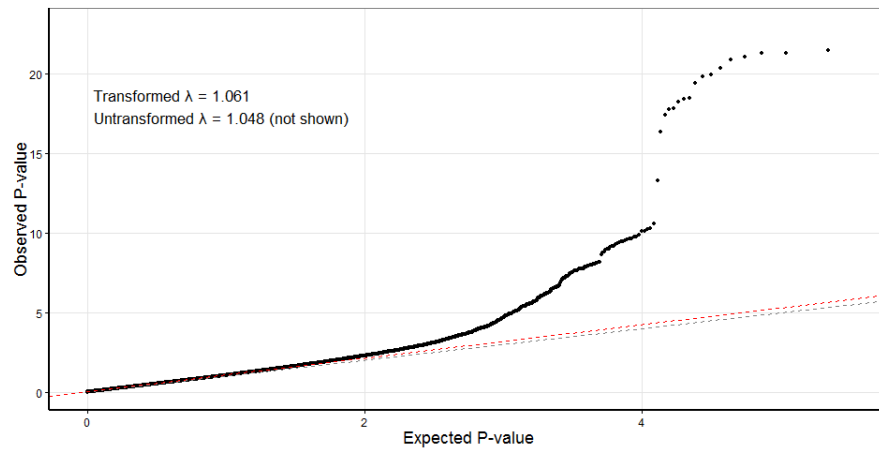
PP (transformed) in EUR-SAS discovery



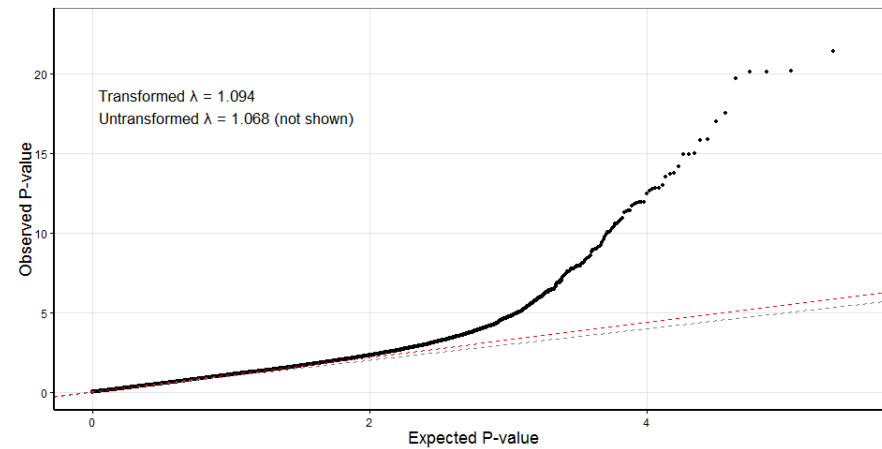
Hypertension in EUR-SAS discovery



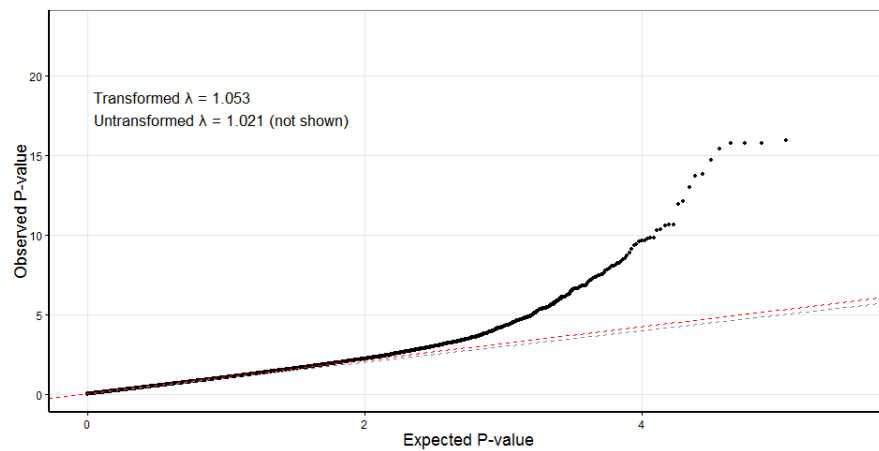
SBP (transformed) in EUR discovery



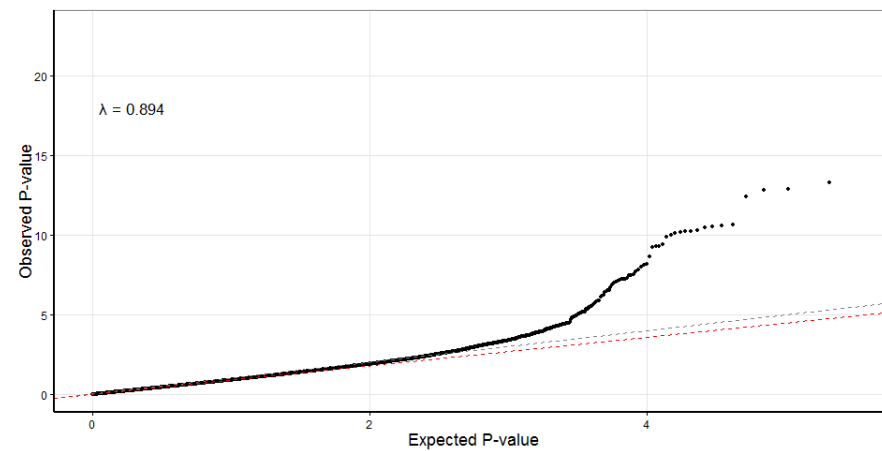
DBP (transformed) in EUR discovery



PP (transformed) in EUR discovery



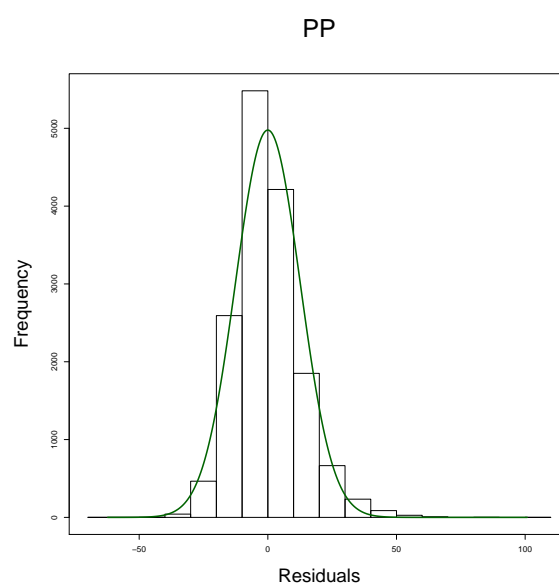
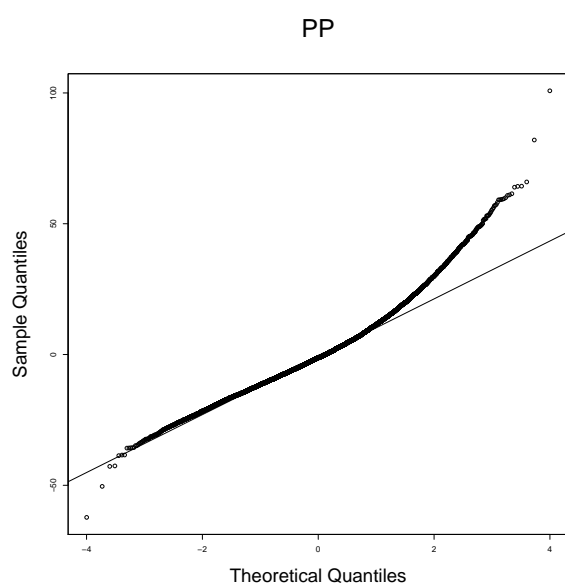
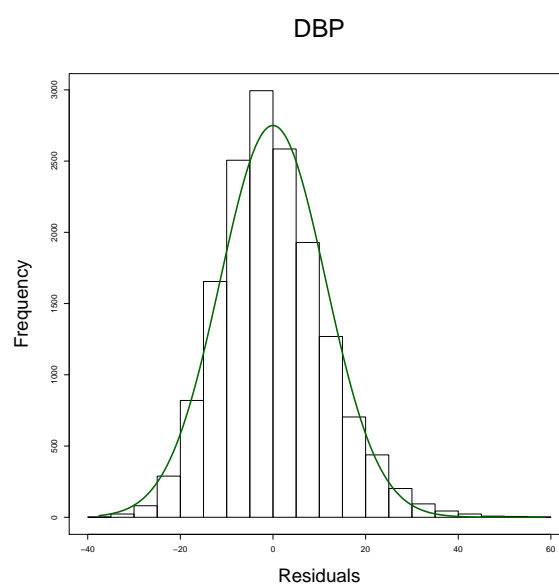
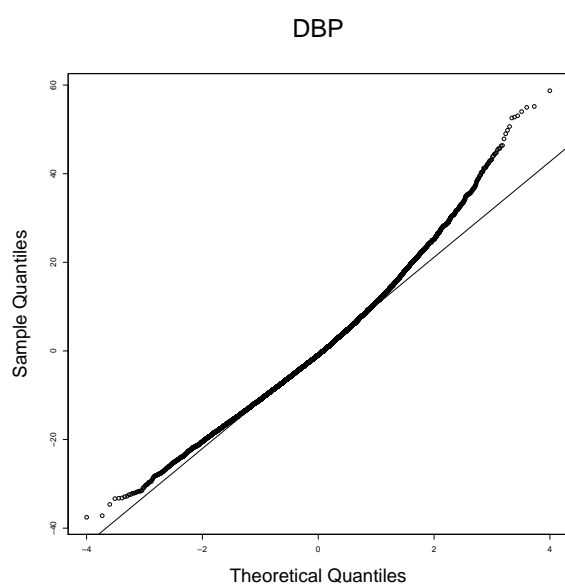
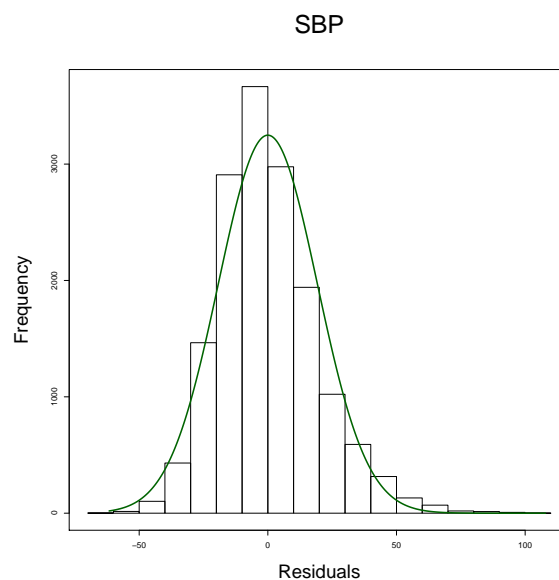
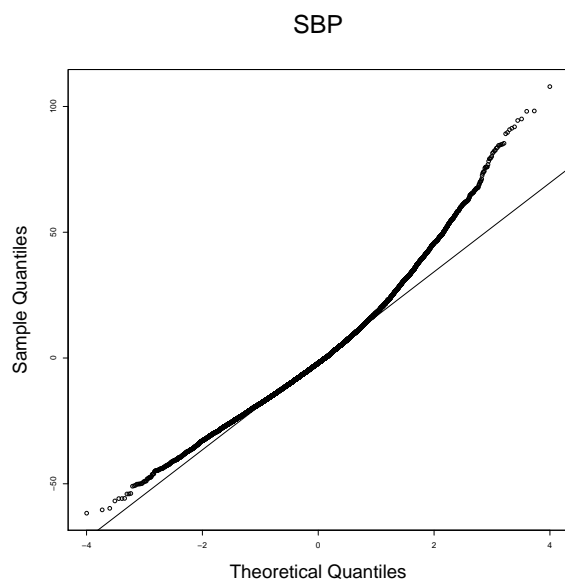
Hypertension in EUR discovery



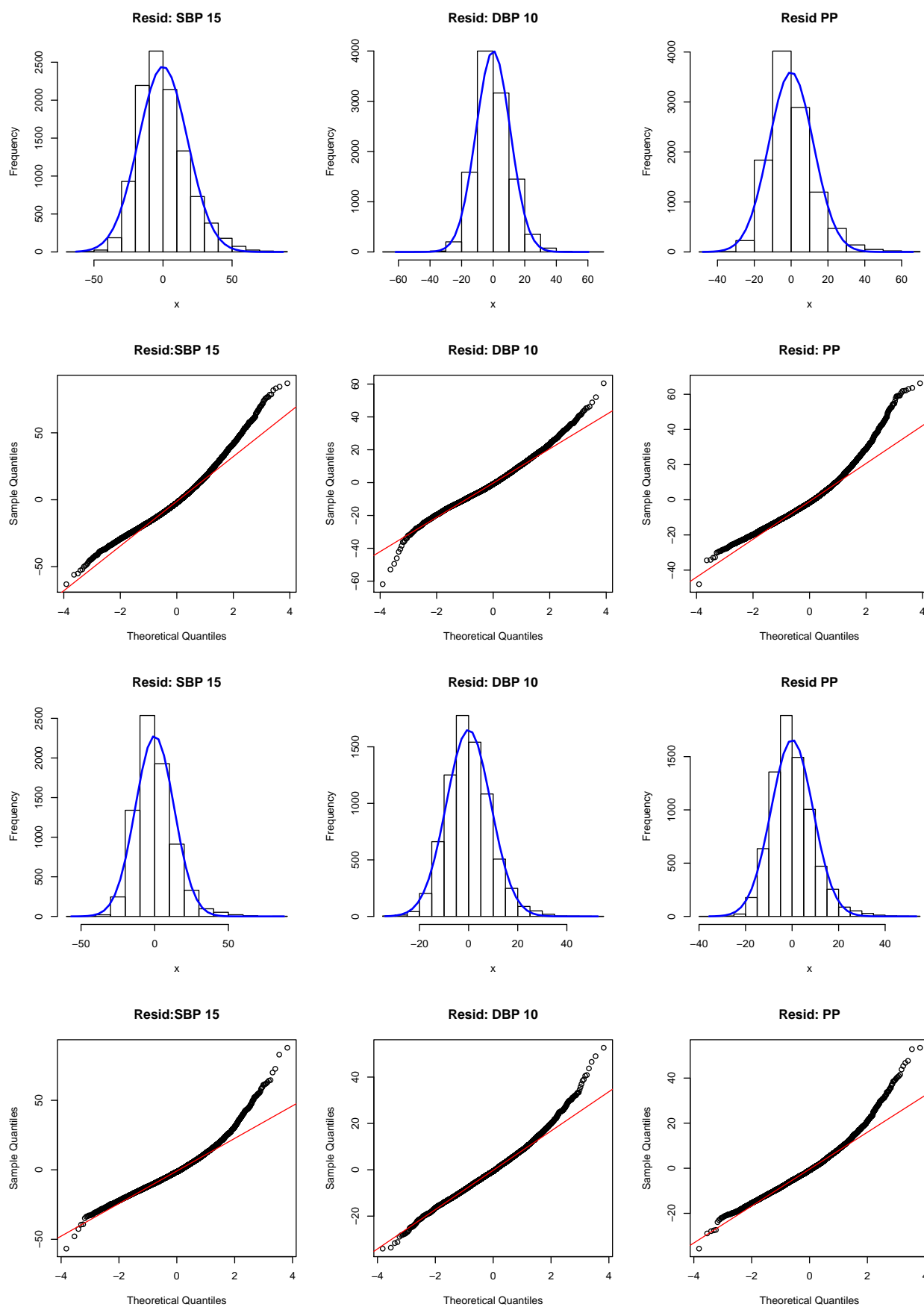
**Supplementary Figure 8. Quantile-Quantile Plots and Histograms of SBP, DBP and PP distributions in studies from the discovery and replication data.**

Figure showing the distribution of SBP, DBP and PP in A) EPIC study from CHD Exome+ consortium and B) ARIC and FHS studies from CHARGE+ consortium.

## 8A. CHD Exome+ consortia. EPIC



## 8B. CHARGE+ consortia. ARIC (top two rows) and FHS (bottom two rows)



## **Supplementary Note**

### **Comparison of Discovery and RMW results**

#### **Study level discovery single nucleotide variant (SNV) analyses**

##### **CHD Exome+ Consortium**

A linear mixed model (fixed and random effects) as implemented in Genome-Wide Efficient Mixed Model Association (GEMMA) version 0.94<sup>1</sup> was adopted to test for an additive effect of the test SNV with the trait of interest. Under this model, the test SNV and the first PC were modeled as fixed effects. The random effect of heritable variation was also modelled to account for relatedness and fine-scale genetic population sub-structure/ancestry (via a kinship matrix calculated with GEMMA).

##### **ExomeBP Consortium**

PLINK<sup>2</sup> or EPACTS (<http://genome.sph.umich.edu/wiki/EPACTS>) software was used for studies of unrelated individuals, and GEMMA<sup>1</sup> for family-based studies with related samples to calculate a centred relatedness matrix prior to the analysis to adjust for kinship. Only SNVs with  $MAF \geq 1\%$  were used to estimate the relatedness matrix. For the association analyses, we changed the default MAF threshold to 0 to test all variants. Linear regression was used for the three quantitative phenotypes (SBP, DBP and PP) and logistic regression was used for the binary trait (HTN). For each phenotype, age, age<sup>2</sup>, sex, BMI, and cohort-specific covariates (e.g. site, case-control status if applicable and the top ten principal components (PCs) in studies of unrelated individuals) were used as covariates. Any individuals with missing data for any of the phenotypic traits or covariates were excluded from the analysis.

##### **GoT2D consortium**

Efficient Mixed-Model Association eXpedited (EMMAX) method<sup>3</sup> implemented in EPACTS was used to account for relatedness and fine-scale genetic population sub-structure within each study and to test for association between SNVs and BP traits. Each of the Finnish and Swedish studies included age, age<sup>2</sup>, sex, BMI and other study-specific covariates. The Danish studies included all these covariates except age<sup>2</sup>.



### **Study level single nucleotide variant analysis using RMW**

A central analysis plan was developed to provide a common protocol across all three consortia to perform study-level SNV analyses. All studies were requested to include exactly the same samples, genotypes and phenotypes as used for the discovery analyses. For the three continuous traits both transformed and untransformed analyses were performed.

Studies updated the chromosome numbers and positions of some SNVs with uncertain mappings (N=91) from the original QC. To align positions consistently across all studies, the Illumina manifest positions were used and files were provided to perform updates within PLINK. All genotype data was limited to the autosomal and X chromosomes. All variants passing QC (including monomorphic variants) were included in analyses. Following genotype QC, all study data were aligned to the build 37 reference sequence strand (+). Finally, each variant was aligned to a reference allele, by forcing the alleles to a designated reference allele within PLINK using a centrally provided Exome chip reference allele file.

This final PLINK fileset was then converted into a VCF file using PLINKSEQ software and was compressed and indexed using TABIX software. A centrally provided “checkVCF” package was used to check the allele alignment of the VCF file. A list of variant sites with non-matching reference alleles that are inconsistent with the reference genome is outputted, and each cohort ensured that this file was empty before proceeding with the analysis, re-iterating any of the QC and VCF generation process to resolve allele alignment issues, as required. Hence every cohort analysed each variant according to a consistent reference allele, as necessary within RMW.

Within RMW linear regression was used for the three quantitative phenotypes (SBP, DBP and PP). HTN, despite being a binary trait, was approximated as a quantitative trait within RMW and analysed using linear regression, as RMW (version 4.13.3) does not fully support binary traits. All analyses assumed an additive allelic effects model.

All studies used a genomic relationship matrix within the RMW analysis, regardless of the cohort type, unlike within the discovery analyses where only family studies adjusted for kinship, using a pedigree kinship matrix. The default options within RMW were used ( $CR \geq 95\%$  and  $MAF \geq 5\%$ ) to estimate the genomic relationship matrix. Where X chromosome data were available, the kinship matrix was generated for both autosomes and the X chromosome, and the autosomes only otherwise.

Central QC mirrored the central QC protocol from the discovery analyses, with additional checks of the log files from RMW and check VCF outputs. To assist with central QC each study also created an ancestry scatter plot of the first two PCs, anchored by the 1000G reference data clustered by ancestry.

### **Study level comparisons**

The study-level SNV association results from RMW were compared to the study-level results from the discovery analyses by producing comparative plots for the beta and *P*-value results for each trait. Inspection of these plots resulted in the exclusion of three ExomeBP consortium studies. The final meta-analysis post-QC within RMW contained 173,329 subjects from 45 studies for EUR\_SAS ancestry and 147,402 subjects from 43 studies for EUR only ancestry.

### **RMW SNV meta-analyses**

Meta-analyses were performed centrally by two analysts independently using RAREMETAL (RM). No further genomic control correction was applied within RM to the meta-analysis, to ensure consistency with the discovery analyses. A filtered meta-analysis using the same QC filters from the discovery analyses, namely  $CR \geq 99\%$  and a HWE  $P \geq 10^{-4}$  was performed. However, any central filtering in RMW is applied to all studies, therefore a second, unfiltered meta-analysis was also performed. The two meta-analyses were compared to check if there was any impact of central filtering, and were confirmed to be similar. Hence the main results of the secondary analyses for both the conditional and gene-based tests used the unfiltered meta-analysis.

### Meta-analysis comparisons

The discovery and secondary SNV meta-analyses results were compared, in order to ensure that despite differences in the sample populations and sample sizes, we had sufficient consistency between the discovery and RMW meta-analyses results, for the RMW data to be used for secondary analyses and follow-up of our top findings. Plots were produced to verify the similarity of both the beta and *P*-values from the results, considering all SNVs from the meta-analysis for each trait, and also focusing plots only on the 30 novel SNV findings from the discovery analyses corresponding to their primary trait. Correlation coefficients were also calculated as a measure of consistency.

Comparison of the single variant discovery results with the new single variant results from RMW, revealed very good correlation across the continuous BP traits ( $>0.77$  in the EUR\_SAS and  $>0.74$  in the EUR only analyses). The differences were attributable to having fewer samples and slightly different studies in the RMW dataset compared with the discovery samples.

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1. Zhou, N. & Wang, L. Effective selection of informative SNPs and classification on the HapMap genotype data. *BMC Bioinformatics* **8**, 484 (2007).
2. Purcell, S. *et al.* PLINK: a tool set for whole-genome association and population-based linkage analyses. *Am J Hum Genet* **81**, 559-75 (2007).
3. Kang, H.M. *et al.* Variance component model to account for sample structure in genome-wide association studies. *Nat Genet* **42**, 348-54 (2010).

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### **1. CHD Exome+ Consortium**

**CCHS, CGPS, CIHDS:** We thank participants and staff of the Copenhagen City Heart Study, Copenhagen Ischemic Heart Disease Study, and the Copenhagen General Population Study for their important contributions.

**EPIC-InterAct:** Funding for the InterAct project was provided by the EU FP6 programme (grant number LSHM\_CT\_2006\_037197). We thank all EPIC participants and staff for their contribution to the study. We thank the lab team at the MRC Epidemiology Unit for sample management and Nicola Kerrison for data management.

**EPIC-CVD:** CHD case ascertainment and validation, genotyping, and clinical chemistry assays in EPIC-CVD were principally supported by grants awarded to the University of Cambridge from the EU Framework Programme 7 (HEALTH-F2-2012-279233), the UK Medical Research Council (G0800270) and British Heart Foundation (SP/09/002), and the European Research Council (268834). We thank all EPIC participants and staff for their contribution to the study, the laboratory teams at the Medical Research Council Epidemiology Unit for sample management and Cambridge Genomic Services for genotyping, Sarah Spackman for data management, and the team at the EPIC-CVD Coordinating Centre for study coordination and administration.

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## 2. ExomeBP Consortium

**Airwave:** We thank all participants of the Airwave Health Monitoring Study. The study is funded by the UK Home Office (Grant number 780-TETRA) with additional support from the National Institute for Health Research (NIHR) Imperial College Health Care NHS Trust (ICHNT) and Imperial College Biomedical Research Centre (BRC) (Grant number BRC-P38084). We thank Andy Heard and the Airwave Health Monitoring Study team for invaluable support. SNP Genotyping was performed at the Wellcome Trust Centre for Human Genetics, University of Oxford.

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36. The National Institute for Health Research Blood and Transplant Research



## **Exome BP Consortium**

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